

Still Alive With Sir Clive!

# ZXir QLive Alive!

The Timex/Sinclair North American User Groups Newsletter

Volume 5 Number 1

Spring '95

Chairman

Donald S. Lambert

Auburn, Indiana



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Our  
Year!



Strike up the



ZXir QLive Alive! ©

Established 1991 The Timex/Sinclair North American User Groups Newsletter

# T/SNUG Information

## T/SNUG

Here is the list of T/SNUG Chairmen and how to contact them. We wish to support the following SIGs:- ZX-80/81, TS-1000, SPECTRUM, TS-2068, TC-2068, Z88 and QL. If you have any questions about any of these fine machines, contact the:

### Chairman

Chief Motivator  
Donald S. Lambert (ISTUG)

### Vice-Chairmen

#### Tape & JLO PD Library

D. G. Smith  
R 415 Stone St.  
Johnstown, PA 15906  
814 535-6998

#### Z88 Library

Dave Bennett (HATSUG)  
329 Walton St. Rear  
Lemoyne, PA 17045  
717 774-7531

#### ZX-81 PD Tape Library

Ed Snow  
2136 Churchill Downs Cir.  
Orlando, FL 32825  
407 380-5124

#### RMG Enterprises

Rod Gowen (CCATS)  
14784 S. Quail Grove Cir.  
Oregon City, OR 97045  
503 655-7484 FAX 503 655-4116

#### TS-2068

Rod Humphreys (VSUG)  
10984 Collins Pl.  
Delta, BC V4C 7E6 Canada  
604 583-2819

#### QL PD Library

John Donaldson (CATUG)  
835 Foxwood Cir.  
Geneva, IL 60134-1631  
708 232-6147

#### BBS — GATOR

Bob Swoger (CATUG)  
613 Parkside Cir.  
Streawood, IL 60107-1647  
708 837-7957 Work 708 576-8068

### Editor/Treasurer

LarKen PD Library  
Abed Kahale (CATUG)  
335 W. Newport Rd.  
Hoffman Estates, IL 60195-3106

## ZXir QLive Alive!

Is the newsletter of T/SNUG, the Timex/Sinclair North American User Groups, providing news and software support to the T/S community in a volume of four newsletters per year; beginning with the Spring (March) issue.

**T/SNUG's main goal is to keep our Magazine, our vendors and our repair service alive for the benefit of T/S users.**

These valuable services shall have free advertising space in this user supported Newsletter that they can see that we are still active out here. We must support their services whenever possible.

Another T/SNUG goal is to unearth titles of all known Public Domain and commercial software available for all Timex/Sinclair machines, building a library and providing lists of that software showing both the source and the availability.

If you feel T/SNUG should perform other tasks, let us know your feelings. If you have solved a problem in one of your software or hardware, please share it with the rest of us.

## Treasury Notes

As of March 1, 1995, we have a balance of \$507.35

**You** can keep T/SNUG alive by an annual contribution of \$12 for one volume made payable to Abed Kahale. Send check to:-

ABED KAHALE  
335 W NEWPORT RD  
HOFFMAN ESTATES IL 60195-3106  
Phone:- 708 885-4337

**Back Newsletter copies are available for \$0.50 each postpaid.**

## Article Contributions

**S**end in your articles by tape or disk and your inputs to:-

DON LAMBERT

ZXir QLive ALive! Newsletter  
1301 KIBLINGER PL  
AUBURN IN 46706-3010

Phone 219 925-1372

Or by hardcopy to:— Abed Kahale.

## GATOR's TWISTED PAIR

We have a 24 hour BBS and encourage you to exchange mail and contribute to the Upload Section. Use it and have fun!! (8N1 300-2400 BAUD)

**Call 708 632-5558**

and Register using your first name, last name and phone number along with a password you won't forget, and *Write It Down!* Do not try to do anything else this first time because all the board options will be locked-out.

When you call-in the next time, you will have Level 5 security and be able to enjoy full user privileges. The BBS has smaller sections called conferences. Select "J" for "Join a Conference" to see the different user groups. Select "TIMEX" to get into the Sinclair Section. The mail you then read will only be from other TIMEX Sinclair users but all SIGs share the same bulletins. Use extension .ART for articles, .ADS for ads and .NWS for news when uploading.

For help, contact the SYSOP by leaving a message, mail, e-mail or phone. Bob Swoger — SYSOP

==== GATOR=====

You may freely copy any of the material in this Newsletter but, please credit the author(s).

# Input/Output

by *Abed Kahale*

## Keeping ZXir QLive Alive!

From

**GEORGE CHAMBERS**  
**TORONTO**

*\$150 Can. through Robert Warner*

The master Sinc-Link newsletters, the Tape Library and 35 lbs. of UK magazines were also received.

*Thank you George*

"Glad to see Hugh Howie is making contribution."; he wrote.



Dear XTender Users,

First of all, I would like to inform you that the development of XTender (the ZX81 emulator for MS/DOS) has been somewhat slackened in the past one-and-a-half year due to personal circumstances. If you're a registered user, please consider this letter as the proof that your registration is still administrated and that you will receive (information about) any new releases of XTender in the future. Please inform me *when your address has changed!*

Secondly, I am pleased to tell you that the long-awaited Zx81TAPE utility is now available. Zx81TAPE allows you to convert your own ZX81 programs from cassette tape to MS/DOS files. Zx81TAPE generates P-type files that can be LOAded directly into XTender (and also into most ZX81 emulators for other computer systems, e.g. QL and Atari). All you need is a simple DIY interface to connect a tape-recorder to the COM-port of your PC and some specially developed software. Zx81TAPE converts whole tapes at once - without any user intervention. The Zx81TAPE disk contains this software, as well as text files that explain how to build the DIY interface and how-to use the software.

At this moment, the precise status of the Zx81TAPE utility is still indefinite. It may become part of the shareware version of XTender, perhaps it will be available to registered users only, or it may even become a separate package that can be ordered both by registered and non-registered users.

Anyway, if you wish to obtain a copy of the Zx81TAPE disk, you can order it *right now!* To order,

please send a note with your name and address, mention the text 'Zx81TAPE' and include one of the following payments: (a) a EuroCheque worth NLG 15, or (b) NLG 15 in cash, (c) DM 15 in cash, (d) UK £7 in cash, (e) US \$10 in cash, or (f) 11 IRCs. (Unfortunately, payments other than the ones mentioned here cannot be accepted and will be returned.) Upon receipt of payment, the Zx81TAPE disk will be dispatched to you.

I am looking forward to hearing from you soon!  
Kind regards,

CARLOS DELHEZ  
EMMASTRAAT 3  
4651 BV STEENBERGEN  
NETHERLANDS

## ZX81-NewsBits

### EMULATOR II Disk Released to Public

The files on this disk have been updated twice, but I am sorry to say that the disk hasn't been released till now. Since the idea came to me to get the Sinclair Emulators together, I've thought of also getting others, but wasn't sure of the response I get. This disk is a result of some concerted efforts to get the Sinclair Emulators and some programs placed in one set, so that they can be distributed on a wider basis, other than through Internet. If anyone is interested in getting the disk, they can contact vendors who can get this TIMEX Master Disk emulator set, or they can get in touch with me. (Please mention Emulator II Disk.)

FILES.DIR	630	1/31/95	3:06:34PM
PKUNZIP.EXE	29378	2/1/93	2:04:16AM
POKE-SNA.ZIP	4462	12/4/94	1:30:40PM
README.TXT	3669	1/5/95	10:17:18AM
TSLIB102.ZIP	126680	10/31/94	3:31:56PM
TW2.ZIP	10114	12/4/94	1:28:22PM
WHATISIT.TXT	3982	10/31/94	3:27:36PM
XTNDR014.ZIP	106569	11/29/94	1:29:52AM
XTNDR114.ZIP	132371	11/29/94	1:42:34AM
Z80-303.ZIP	225705	2/1/95	7:06:04PM
Z80STUFF.LST	1508	9/22/94	6:31:24PM
Z80STUFF.ZIP	34026	10/31/94	3:07:30PM

An explanation of these files is included in the README.TXT. Please mention "Emulator Disk II" as the title in the e-mail.

E-mail — [rlg@world.std.com](mailto:rlg@world.std.com)

USPS mail — ROBERT L GILBERT  
12A NATHAN RD  
WALTHAM MA 02154

## New Sinclairists

Today I received your response to my inquiry in an ad in UPDATE!, thanks for writing. I wrote Mr. Chrestien answering his ad for a T/S2040 power supply and a couple other items. Thank you for answering my questions.

I'm anxious to learn more about this little computer (the T/S 1000). I like to wander around garage sales and thrift shops and picked up a couple of T/S 1000's real cheap. I found the little machine intriguing and like to play with it when I find time. I've had them a little more than a year now. Doug Wagoner

Thanks for all the information you sent. Up until now I've just had the TS-1000. However, I've recently ordered a 2068 setup as advertised in July UPDATE! from Frank Davis of Mechanical Affinity. In the future I'd probably be looking at performing some updates to the 2068 from information I've picked up reading various Sinclair publications. I recently purchased a large box of them from John McMichael of Laramie, Wyoming. I'd like to be able to use Spectrum software (Spectrum ROM chip), use my RGB composite Magnavox CM 8764 monitor (internal modifications and appropriate connector) and get a printer interface and appropriate printer driver software. My printer is a 24-pin Panasonic KX-P2123 with color option. I'm not anticipating an upgrade to disk drives at this time because of the cost and troubleshooting that would probably be involved. How best to attain my present upgrade goals? I'm quite mechanically inclined but probably have limited abilities when it comes to electronics. I have an article and diagrams for the update of the monitor but it seems to be aimed at someone with some experience .....

Also, I'd like to place an ad in the next newsletter to obtain some magazines and software.

Thanks again for the help Abed! Perhaps someday I'll be writing you a letter on a Timex/Sinclair computer instead of my Commodore 128!

Doug Wagoner  
Post Falls, ID

**Spectrum:** A ZEBRA Dock Port board is available from Mechanical Affinity. Call and ask for a price. If they don't carry the Spectrum ROM for that board contact first RMG. Otherwise contact me, as the LarkEn V2 Spectrum ROM is available for sure. It is always better to stay out of the computer yourself and use only the above mentioned board. An internal solution may be available by contacting Dan Elliott of Computer Classics.

**Printer Interface:** Contact RMG for an AERCO CPI for your large printer as he just acquired AERCO's complete stock. My KX-P2023 works directly from TASWORD and MSCRIPT word processors through AERCO. You select fonts from the front panel - EPSON emulation.

**Monitor:** Connect a shielded cable from the COMPOSITE input to the VIDEO output of the TS-2068. Otherwise you will need an RGB board for a finer picture.

You should really think about getting a disk drive interface before you can't any more. The John Olinger Disk Operating System may be your best bet as LarkEn DOS seem to be sold out.

(Addresses are in the Ads section)

*Editor*

## 4 Members Join

### The Chicago Area, CATUG, In 1994

### Welcome to the Sinclair world

Jeff DeCourtney	ZX-81 TS-2068 Tape
Pillip Kwitkowski	TS-2068 LarkEn
Bobby Muth	TS-2068 Tape
George Zimmerman	QL

Butch Weinberg, a former member of CATUG donated his collection of ZX-81, TS-2068 and QLs.

Joan Kealy gave away her misbehaving LarkEn RAMDISK to Bob Swoger. Bob with the help of Phillip Kwitkowski, CATUG brilliant young member, were able to bring it back to life after two days of surgery. Guess who got to keep it? They also built a couple of TASMAN printer I/Fs on the side.

## Welcome to our New Members

Doug Wagoner	William Krossner
J A Bowers	Howard Chegwiddden
Larry Crawford	J B Pegram

## Z88 Anyone?

Joan Kealy got herself a Z88. Was it caused by Hugh Howie's article in the last issue of ZQAI?

... I wonder?

*Editor*

Recently received vol. 4, number 3 of ZXir QLive Alive!, It was the first issue that I have seen even though I was quoted on page 5 thanking you for your efforts with regards to SNUG.

It is great news to know that T/SNUG is alive and kicking. The Unclassified Ads section is a fabulous feature in this fast changing world we have chosen to stay in. Is there any possibility of getting the copies that I missed out on?

Enclosed is a pair of disks with my version of TASWORD that you may find of interest.

Best wishes for success in 1995 and beyond.

Larry Crawford  
London, ON Canada

Nice of you to join us and welcome aboard. We have benefited from the good articles that you have written over the years. Your article contribution is always welcomed. I will review your TASWORD version in the next issue. And thank you for the kind words.

*Editor*



## UPDATE!

### New Address

UPDATE! Magazine

PO BOX 17

MEXICO IN 46958

### More On Re-Inking

Your Own Ribbons

by Rod Gowen

Have any of you tried re-inking your own printer ribbons? If so, you may have found that the ribbon ink tends to thicken up after a while due to the fact that it lasts so long. Some of the people I have spoken to or corresponded with tell me that they have been adding some sort of petroleum product (such as WD-40) to try to thin it out. I have also been told that they use the same product to "wet" the ribbon if it is dried out.

The use of petroleum products is very hard on both the ribbon (it can actually cause some types of ribbons to dissolve!) and to the print head. I have done a lot of research over the years on this subject and in all cases, when I have spoken to the 'experts', I have received the same answer: - USE REGULAR MINERAL OIL! The kind you may have in your medicine chest. Use it to thin your ink and to 'freshen' your ribbons. Your ribbons will last longer and so will your printer's print head.

To clean up your hands and workspace after doing some re-inking is the next topic. I have been told that folks have used various types of cleaners and again, petroleum products (like WD-40), to do this. I have even purchased a product from an ink supply house specifically developed for the job (at \$18 a pint!) and found that for the most part, the very best product I have used to date to clean my hands is the hand cleaner called GO-JO. It is available at any auto parts store as well as most department stores in various sized containers. I bought 2½ gallon containers with a dispenser for about \$15 a few years ago and am still using it. A small tube of about 6-8 ounces will cost you about \$2-4.

I hope that these bits of information will be of use to some of you. Remember, RMG Enterprises sells the black and colored ribbon inks in various sized bottles. If interested, you will find an address and phone number elsewhere in this newsletter.

*Amen, I have been using mineral oil for thinning out the ink as it thickens with age and becomes like molasses. Also, see ZQA! Vol. 2 No. 3, Fall 1992.*

## Errata

Any idea why I received two copies of your Winter 94 newsletter? True - I do have two eyes - but usually I find it practical to use both of them on the same piece of reading material!

Unless you prefer otherwise, I'll give the spare copy to a friend, who has a few TS-2068 computers. You can never tell!

In any case - someone should check the files to be certain that my name is not listed twice.

The big clock on the wall says that bedtime approaches .... so I will cease and desist as of now. Keep up the (otherwise) good work!

Fred Henn

Amherst, NY

*I won't do it again, honest. I believe what has happened was that the printer ran out of labels and I had to feed it again.*

*Do give the spare to your friend, may be he will join us.*

*Editor*

Other than the mention on the first page of the Winter '94 edition of ZQA!, the fact that members need to renew at this time, was not trumpeted in the newsletter. It almost slipped by me; I hope other members are more observant!

I appreciate your time and trouble.

Gilliam Parrish

Beggs, OK

*I do appreciate your concern.*

*Editor*

## HELP!

Please put the following plea into the next ZXir QLive.

I have one Z88 that has developed a peculiar problem. I can shut down normally with the two shift keys, but it will not come back up, unless I do a reset (sometimes) or take the batteries out, put them back after a few minutes and maybe have to do a reset also. Needless to say, this is frustrating since everything not SAVED to EPROM is lost, and the machine must be reconfigured each time. Any ideas? Anybody have some schematics? TIA for any helpful hints.

Greg Bridgewater debbie voice (412)363-9713  
INTERNET: gregbh2o@telerama.lm.com

GREG BRIDGEWATER  
5500 HAYS ST  
PITTSBURGH PA15206

$$4,195,835 - \{(4,195,835 / 3,145,727) \times 3,145,727\} =$$

Pentium processors = 256

Sinclair processors = 0



## WANTED NEEDED

### User's Manual

QL Psion PC4 package for IBM clones.

I have a client who would seriously like to buy the manual or borrow your manual to run copies, return to you and pay for all postage incurred. Any help would be greatly appreciated. He had a fire and lost his copy of the manual.

Rod Gowen

RMG Enterprises

14784 S QUAIL GROVE CIR

OREGON CITY OR 97045

503 655-7484 (10AM-7PM Tue. - Sat. Pacific)



I have completed the mailing of postcards to all known past SNUG members. Received replies from them indicating the publication of their choice to have the remaining subscription extended in either UPDATE!, IQLR, T/SUNG, donate to T/SNUG or a refund.

Their choices were:

10 UPDATE!

4 IQLR

23 T/SNUG

14 Donate to T/SNUG

21 Refund

7 Return to sender - address unknown

The detailed information were sent to Paul Holmgren including updated addresses for him to carry on.

*The ball is in your court, Paul! Editor*

## WANTED: Bob Berch or JRC Compiler

I was interested in your letter in the May issue of Electronics Now. ... I still have three TS-1000's. I regard this machine as the finest teaching machine on micro-processors ever put on the market.

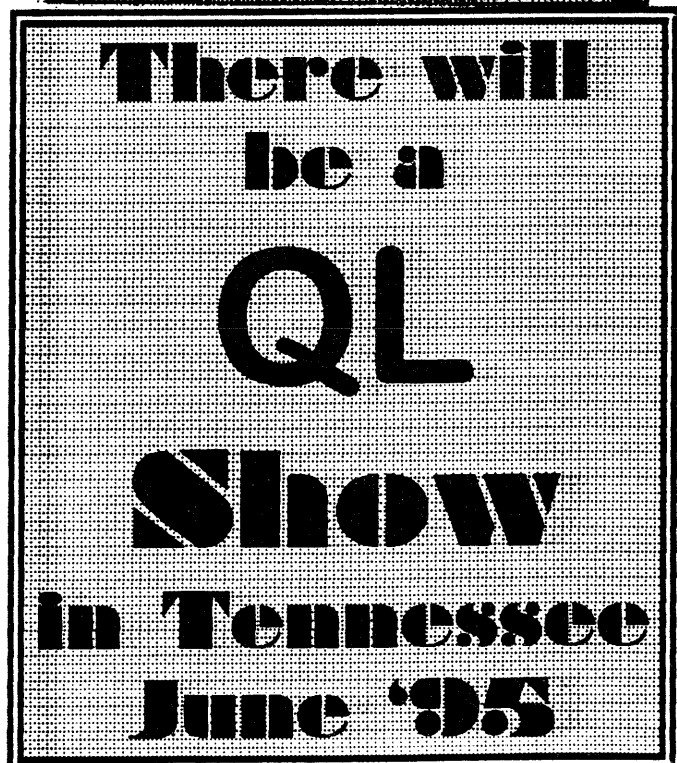
I would especially be interested in any *compiler* programs. I have used the Hunter board to extend memory in the 8-16K space, and have written some assembly programs for these boards I would be happy to share with the group.

WILLIAM KROSSNER

PO BOX 3047

DULUTH MN 55803-3047

*We always welcome any material on the Sinclair machines. Please, do join us. Editor*



# FROM THE CHAIRMAN'S DISK

Donald Lambert

**S**aw this in an electronic magazine on page 13 of Electronics Now, February 1995 "but can a non-professional really wade through multi-megabytes of code? That is why a number of hobbyists are rediscovering the eight-bit systems and early IBM personal computers. They are understandable, inexpensive and fun." All the big memory computers have one fault and that is one size fits all. If you want to personalize a program for yourself it is virtually impossible to do it yourself and the pros want big bucks to do it for you because they do it to please themselves not you.

**F**or those of you that have the 747 Flight Simulator there was an article in READER'S DIGEST, January, 1995, that gave some flight specifics: take off speed 180 mph. Cruises at 37,000 feet at 600 mph. The first production model prototype for testing rolled out September 30, 1968. It is 232 feet long. Cockpit is 30 feet from the ground. 22 crew members and 57,000 gallons of fuel. The 747 is a growth from the 707. I have ridden in both. The 707 had more room for each individual passenger but then it had less cruising range. It is no feat for a 747 to fly nonstop from Detroit to Narita Japan in about 13 hours.

**I**n the March 1995 issue of Popular Electronics is an article by Jeff Holtzman (pages 68-69) on object-oriented operating systems.

That gets into hierarchical trees which is a way to represent relationships among families. Wait a minute Lambert you done sprung that long "h" word what gives? O.K. in DOS that would be C:\ C:\FINANCE C:\FINANCE\1992 C:\FINANCE\1992\JAN. But wait a minute this is T/S not MSDOS! How true, yet with the Portuguese ZEBRA TOS that uses object system, it is quite in line. TOS allows you to have up to 15 DIRectories on a disk plus the disk name. So what does that mean? Well, for an example suppose you have a disk with games on it. You could label the disk GAMES and that is fine and dandy. But suppose you want to play a board game and it has been some time since you played games, is TARZEK a board game, an action game or a word game? So you create a DIRectory

BOARD and WORD and ACTION and when you SAVED the games originally you put them into the proper category. Then when you want a board game you would CAT\*:GAME:BOARD and it would display only the files under BOARD. There was more promised for the next issue of Popular Electronics, but I couldn't find the article.

**S**tart planning for the next Dayton ComputerFest that will be held August 26-27. Flea Market space will be available after May 31. The '94 ComputerFest drew over 44,000 attendees. See you there!

**J**ust fixed one of my two TS-2040 printers. I thought that I would have to replace the jack. What had happened was that the Jack had tilted away from the circuit board on the connector wires that are

in the rear of the jack. So I mixed up some epoxy and clamped it in place till the epoxy dried. Working now. I also have an Alphacom printer for a spare. I use a TS-2040 printer on each of my two working TS-2068 computers.

**I** have been doing some soul searching and have concluded that I have no intention of ever working with the TS-1000 computer again. I have lots of stuff related to the TS-1000 that I would like to find a happy home for. At the present moment I have not inventoried the extent of my stored TS-1000 related items so if there is any one particular item you are looking for let me know. An offering

price that includes shipping. You will see my ads from time to times. I have a CAI stringy floppy interface with extra wafers (the little tape cassettes if anyone is interested send me a letter with an offer). Expected shipping is about 6 lbs.

**I**solved the on again off again static electricity problem. My computer chair has a leather seat and I wear two different pants at home, one is a pair of blue jeans and the other is some artificial fabrics. The blue jeans are not prone to static build up but the other one are so. I must remember to lay my hand on the ground strip (grounded through a 1 megohm resistor) before I even put my hands close to the computer. Slide on the swat of the chair in the artificial fabric pants and it is snap and crackle time. 0/0.

## NOTICE

Since UPDATE! Magazine and ZXir QLive Alive! are mailed quarterly on the same month, we have decided to mail ZXir QLive Alive! a month earlier.

Our new mailing dates will be:-  
March (Spring) — June (Summer)  
September (Fall) — December (Winter)

Any material for publication should be received by Donald Lambert or Abed Kahale by the 10<sup>th</sup> of the preceeding month.

*Thank you*

# ZEBRA FDD

by Donald Lambert

## Some details of the disk Interface:

**T**he actual dimensions of a 3" disk are thickness 3/16; width 3 1/8; length 3 29/32 and they come in a hard plastic case which is larger. The 3" disks are called CF2, whatever that means. To compare the actual size of a 3.5 disk is 1/8 thickness; 3 9/32 wide and 3 9/16 long.

**T**he actual interface unit is in several cases. First is the *twister* board to adapt the Spectrum/TC-2068 unit to the TS-2068 computer. It is 7.5" wide with the TS-2068 feedthru coming off to the right and the TC-2068 feedthru going straight out from the TS-2868 computer. The twister board is about 4.5 inches deep. Plugged into the twister board is a box, the interface box, measuring 3.75" deep by 3.625" wide and 1.187" high. It plugs into the twister board. On the back is a 15 pin D male socket. From the male socket is a coiled cord that goes to the controller. The controller, the disk drive and the power supply are all identically sized and can be stacked. All boxes are silver in color. Their dimensions are 2.750 high 6.25 deep and 4.750 wide. The power supply has three disk drives type connectors to supply power to a maximum of 2 disk drives and the controller. If more disk drives are added then it would be necessary to have another power supply for the added on disk drives. The controller has two 9 pin D sockets for the serial interfaces.

**O**ne outstanding thing is that there are no exposed boards or wires and everything is self contained. With the T/S twister expansion connector it is possible to continue to use the regular accessories that you are used to using.

**C**omparing the four disk interfaces, the LarKen, the Oliger, the AERCO and the ZEBRA or TOS in operation, the ZEBRA is more like the AERCO in that the disk has to BOOT automatically to get the disk system going. To use the TOS, you put a disk in the drive but not seated and turn on the power supply for the interface but not the computer. After turning on, push the disk to seat and the disk drive light will flicker and when it stops, turn on the computer, the disk drive light comes on again and if you watch closely you will see the screen flash with the normal logo plus a line that says TOS 1985. You get the AUTOSTART program if there is one or else the disk directory. The LOAD/SAVE and other commands are like

the Oliger in that you use an \* instead of / to use the disk system.

**I** have successfully gotten a 3.5 drive to work with the interface in the one sided 40 track mode. Later I discovered that I could FORMAT to 80 tracks double sided but I did not get the four disks SAVED to double sided 80 tracks. I did get them to save to 40 tracks single sided on the 3.5 disks. For a reason that I don't understand the program "BACKUP" will only copy from a single sided 40 track disk to the same type disk. While I was working with the system it died and apparently the edge card connector that plugs onto the twister board split and the fingers no longer made contact with the twister board. I shipped the entire outfit to Nazir Pashtoon for repair.

**I** later received a letter from Jack Dohany. I ordered a pair of drives (3.5 new and tested) plus a 64K controller for the ZEBRA system so that I could use CP/M. After I get the system going I will get some CP/M disks for the ZEBRA system. I have found the 3" drives to be dependable and while I have no proof, I believe that they are 30ms in head step rate. At least they seem slow. I received 5 disks from George Chambers and while they had programs on them they were not TOS. I moved the drive to the other computer and tried the LarKen, and there was the directory. Of course they were single sided but a few were FORMATTed to 42 tracks. I copied them to 5.25 disks and have plans to reFORMAT the disks to TOS when I get the system up and going again.

**W**hile I had the drive on the other computer I did check the rpm and found the drive to be a very uniform rpm 297 for all eight of the first eight revolutions on turn on.

**I**n a letter I received from Jack Dohany he stated that in FORMATTing from DFM that if you select 40 tracks it is always FORMATTed to single sided and that if you FORMAT to 80 tracks it is always FORMATTed to double sided. So that is solved. That is in the FDD EPROM.

The program BACKUP is only for copying 40 tracks single sided to 40 tracks single sided. I did not get a chance to test the copying routine on DFM since the interface died about then. When I get the interface back I will FORMAT disks to 80 track on the 3.5 drive and try out the copy routine.

**I** have read and reread the FDD manual and now await the arrival of the interface to try out things. 0/0



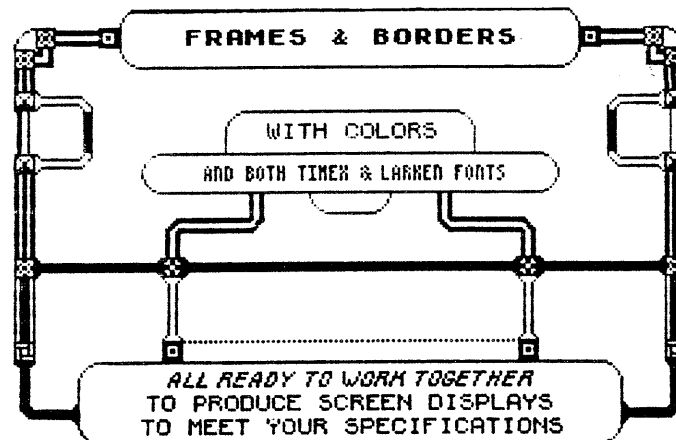
# WINDOWS BY SHADE - PART 2

by Robert Shade

Each of the windows is preset by the implementation program to a different mode. The upper left section is set to All Characters, the upper right section to Capitals mode and the bottom section to Numbers mode. Press ENTER when data entry at an item is completed and the data entry cursor is erased and the highlight is placed over the next item. Each of the data entry operations produces a different tone. The tone for the 'C' to 'L' cursor is the highest frequency tone, the character tone is lower, and the ENTER to end data entry at that item is the lowest. This new data entry routine just as the older version has two sister routines that see to it that no less than 0 characters are left after a delete. The new data entry routine uses the standard 'CS' + 'O' for character delete. This new data entry routine still does not provide an insert mode and locks out the arrow keys. I had considered and had tested an insert function for this new version but the fact that with the extended BASIC functions slowing down the whole data entry routine so much, I gave up on having an insert function with this version. Pressing Change function will change the business name LOOMIS-SHADE PHOTOGRAPHY to LINDA SHADE PHOTOGRAPHY and the AM to PM for the time of day entry and back again when each is highlighted. This demo has a complete date and time of day checking and error reporting routine. The Window to Window Shift function will cause the highlight at any item in any window to shift to the first item in the next window. The Next or Prior item function moves the highlight from item to item only within a window in an up or down direction with wraparound. Pressing the Finish function at any time allows the user to add any amount of data desired from a blank file to a fully entered file. The Finish function will first prompt 'Is All This Data Correct?' 'Y' or 'N'. If NO is pressed the user can return to change or enter data into any item entry. If 'Y' is pressed that concludes data entry into that file unit and 'Another File Unit?' 'Y' or 'N' prompt will appear. If 'Y' is pressed this will clear all the entries for the last file unit from the display and setups the next file unit for data entry. If N is pressed the data entry operation is ended and the program will display the main options menu. The Quit function provides an immediate escape from the data entry operation to the main options menu at any time. One of the most important improvements to this demo is the far more extensive core of subroutines, the MC components and use of HI-RAM memory to temporarily store data entered.. All the characters in all these fonts center properly within the TIMEX attribute color (paper) block they are printed into.

There are five fonts used by these demos:

1. LarKen 64 character (for data entry),
2. LARKEN Italic (for printing our company name to the screen on simulated labels)
3. LARKEN 42 character (printing titles within the windows)



4. TIMEX 32 character bold (titles & menus)
5. TIMEX Graphics (borders, frames, constructs, simulated tractor-feed sheets & labels).

Even though the LarKen italic font has been improved it still suffers. This produces a line which is readable, but slightly wider than desirable. Because the primary use of this font is to print our individual and company names to the screen display as simulated labels and record pages, the font has been divided into two halves to provide two ways of printing those names. The first half of the LarKen italic font only provides numbers, function capital and some symbols to be printed as individual stand alone characters. The second part is lower case characters which have been designed to print somewhat more succinct versions of our individual and company names. This is done by designing the whole line of characters so close together that most of the 8 x 8 character blocks have more than one character per block. If for instance the LarKen italic font was selected you could print my company's name to the screen display by either PRINT #7; "LOOMIS-SHADE PHOTOGRAPHY" or PRINT #7; "mmnopqrstefghijkl". The second screen print would not be as wide, but both are OK. The LarKen 64 character font is LOADED into the LarKen cartridge. The LarKen 64 character font is the font used for the data entry routine. This font also provides three mode cursors. It provides an inverse 'C' & 'L' for the standard upper & lower case printing, and an inverse right facing arrow cursor for numbers only data entry. I selected the standard font characters to be converted for use as cursor because I felt they were the least used and least missed. These were the underline, character code 95, for the inverse 'C' cursor, the up arrow, character code 94 for the inverse 'L' cursor and the back-slash character code 92 for the inverse right-facing arrow cursor.

These three selectable modes simplify data entry. A numbers only mode entry does not need a separate routine to ascertain if letter, function or symbol characters have been entered into a date or time of day entry by mistake. This new data entry routine allows the extended mode characters to be entered in all characters

and caps. By pressing SS & the Y, U, P, F or G keys, the user can print the extended mode brackets and copyright symbol to the screen. Not all these 5 fonts are used in the three window screen displays, so I have included two other demos that use all the fonts and graphics. The first of these extra demos is the font demo which presents one font at a time with its type and file name along with the standard TIMEX ROM font for comparison of use. The second extra demo is the graphics demo and uses primarily the TIMEX Graphics font to produce borders, frames & constructs. Each main screen display is labeled and some of the dozens of screen displays are titles and colored. In the graphics demo there are several displays which are used to preview data printouts these are the tractor-feed labels and pages. Other graphics displays are for the production of cover screens, such as horizontal and vertical film strips. The old "FILMRECORDER" demo did have fonts in HI-RAM but did not have any MC program blocks in HI-RAM. These three window screen display demos do have some MC program blocks in HI-RAM. These include Jack Dohany's LarKen Disk Utility, 255 bytes and Jack Dohany's The Break Utility, 80 bytes, my Primary Data Entry Routine, 1399 bytes, and my Data Storage Buffer Clearing Routine, 65 bytes. I have enclosed a copy of the memory map of memory usage above RAMTOP, a copy of the core subroutines catalog listing, a copy of the substitution chart for the extended mode characters, a flow chart and a list of the router variable used in the LarKen extended BASIC part of the data entry routine, copies of

the fonts demo displays and a few variables usage listings for your convenience. If the user/programmer needed more RAM space for an implementation program data string he could delete as many of the lines from the core

#### TIMEX GRAPHICS FONT

```

! F " 7 # = $ || % & ' ( ) * /
+ F , = - 7 . || / || 0 1 = 2 3 4 5
6 7 8 9 = : || ; < > = < > ? @
A B C D E F G H I J K L
M N O P Q R S T U V W
X Y Z [ \ ] ^ _ ` a b
c d e f g h i j k l m
n o p q r s t u v w x
y z { | } ~ `

```

#### TIMEX ROM (BLUE) TIMEX (BLACK) FONT FILE NAME - "CHGM01.CS"

subroutine as needed and that would still provide all the GOSUB's to get the job done. If the core subroutines line numbers were not changed the user/programmer could still use the same catalog of core subroutines listing as before. The core subroutines could be reinstated with a DELETE/MERGE from the end of the implementation segment before the next implementation segment was itself MERGED into the program. Drive these demos around, kick their tires and let me know what you think of them.

# QL Hacker's Journal

## Supporting All QL Programmers

### Editor's Forum

The only key item of news is that as I am writing this the latest version of C68 v 4.2 has partially come out. I received the zipped version of C68 Runtimes disk #1. Dave Walker should be sending the rest of the disk out soon. Since I have Internet access I am on Dave's mailing list for updates of C68. Dave prefers to distribute the package as a number of large mail messages. When I get them, I convert them back into a binary file and get them over to the QL. I then send a copy of the disks to Don Waltermann of QBOX-USA and to Bob Dyl of the IQLR. If I remember, I can upload them to a number of QL FTP servers on the net. The key ones are [maya.dei.unipd.it](mailto:maya.dei.unipd.it) and [ftp.nvg.unit.no](mailto:ftp.nvg.unit.no).

For those interested I have a new Sinclair Internet Resources List that has a number of Sinclair World Wide Web sites listed. The amazing thing is that there is a ZX81 home page out there. If you would like a copy of the list, send me a note. I tried posting it to [comp.sys.sinclair](mailto:comp.sys.sinclair), but I don't know if I was successful.

The last item of note is that I have finally broken down and bought some new hardware. I went out and picked up a new HP Deskjet 520 inkjet printer. Its output is almost laser quality, esp. with the specially designed inkjet paper. This is not something I normally do. My last printer, a DWP-230 daisy wheel, cost a grand total of \$1 at a garage sale. And it has worked for 2 years with out failure. It was only when I thought it died that I considered buying the Deskjet. (I forgot that these diable HI-TYPE II printers do run out of ribbon and will not print after that. And I thought it was dead.)

That's all I have for now. Happy Hacking.

### Displaying QL Screens In MS-DOS

It's not normally the policy of the QHJ to publish programs that are written for other platforms than the QL. But in this case, I can make an exception. The following program by Jeff Kuhlman is designed to display a QL screen file on an MS-DOS computer. I've tried it with my MS-DOS laptop (CGA display) and with a 486 (VGA display) and it works fine on both computers.



As more and more QLers are buying PC's, programs like this are becoming more usefull. - ED

```

/* SHOWGR.C - A 'C' PROGRAM TO DISPLAY
'GR' FILES
FROM THE MDOS PROMPT */
/* JEFFREY A. KUHLMANN 27FEB94 */
#include "graphics.h"
#include "stdio.h"
#include "string.h"
#include "stdlib.h"
#include "io.h"
#include "conio.h"
char infn[81]; /* input file name */
char str1[81];
char buf[128*200+128];
FILE inf;
int arry[20]; /* utility array */
char rows[81]; /* row string */
char cols[81]; /* columns string */
int ctr,end,delim,col,row;
int rctr,cctr,cptr;
int chardat[8],chrptr;
char hexdat[81];
int hex[4];
int blank[4],where,pval,ccc;
int mptr,fd,gm;
main(argc,argv)
int argc;
char **argv;
{
gm=5; /* Graphic Mode */
if (argc<2) /* If no file name given on
command line, */
{ /* ask for one */
setvmode(2);
puts("QL SCREEN VIEWER FOR MDOS");
puts("Press any key when done");
puts("viewing picture...");
puts("QL SCREEN file name? (w/o .SCR)");
gets(infn);
}
else strcpy(infn,argv[1]);
strcat(infn, ".SCR"); /* add required
extension */
setvmode(gm); /* change video
mode */
fd=open(infn,O_BINARY); /* open file for
reading */
mptr=0;
if (fd==-1) {setvmode(2); printf("Can't
open %s",infn);
exit(0);}
read(fd,buf,128*200);
/* ^ read first 200 lines into a buffer
*/
for(rctr=0;rctr<200;rctr++)
/* ^ 200 pixels in 'y' direction */
for(cctr=0;cctr<128;cctr++)
/* ^ each QL line is 128 bytes */
{ pval=buf[(rctr)*128+cctr];
if(rctr&1)
/* ^ need to take into account odd
scan line */
poke(0xba00,(rctr-
1)*40+cctr/2+8,pval);
else
poke(0xb800,rctr*40+cctr/2+8,pval);
}
while(!kbhit()); /* wait for keypress
*/

```

```

setvmode(2); /* restore 80 col.
mode */
exit(0);
}

```

## Recent Freeware Releases

A number of freeware programming packages have come my way. I have copies if anyone is interested. Most if these programs should be available on the Internet. If not, I will try to put them out there.

BISON - Port by Dave Woodman

BISON is another version of YACC (Yet Another Compiler Compiler). BISON is used to create a language parser.

FLEX - Port by Dave Woodman

FLEX is another version of LEX, a lexical analyzer creator.

INTERCAL - Port by Dave Woodman

INTERCAL is a programming language designed to have nothing is common with any other major language.

DIFF - Port by Dave Walker

DIFF is a program that will show the differences between two files.

RCS - Port by Dave Walker

RCS stands for Revision Control System. RCS is a number of tools that are used to keep track of various changes to text files. Mostly it's used on source code. It lets you back track a few versions if you need to. It can also be used in a programming shop where more than one person may be editing the same code at the same time. It lets one person check out the code and only they are allowed to update any changes.

Infocom Reader - By Luke Roberts

The program name is really ZIP. Most INFOCOM games are stored in a data file and a game file reader is used to play the game. ZIP is a QDOS port of such a reader. With this program, you can take almost any INFOCOM game and run it on the QL. Luke has tested it with a number of games already. For those that don't know what INFOCOM is, INFOCOM is a game company that put out a number of text-based adventure games back in the early to mid-80's. A number of their popular games are Zork (I - III), Deadline, Planetfall, HitchHikers Guide to the Galaxy, and Suspended.

In other news, I've heard from Dave Walker that a new version of C68 v. 4.20 will be out sometime before Christmas. I don't have any details on any of the changes or upgrades. Since I am now of Dave's distribution list, I should receive the new version as soon as Dave releases it. For the U.S. readers, once I get it, I will send a copy to Don Waltermann so he can put it up on QBOX-USA. He said that he and John should be putting a hard disk on QBOX-USA soon, so he will have lots of disk space C68 and other stuff.

QL Hacker's Journal

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**M**IRACLE SYSTEMS' QXL is the reality first suggested by the 1986 vaporware named FUTURA. Though the QXL was introduced in North America two years ago, there are many minor points that have not been mentioned elsewhere, and were not covered in the recently released manual (some of this information has already been shared and may yet appear elsewhere). My own lack of information is partially the result of my year at an Indian Mission as well as my decision to no longer be a QUANTA subscriber *[I felt that QUANTA was too parochial in their outlook and non-UK members were apparently considered as an extraordinary postal nuisance]*.

For those not familiar with the QXL, it is an 8/16 bit PC-expansion card which uses a 20 MHz 68EC040 micro-processor whose operating system [SMSQ] emulates the Sinclair's QL computer's QDOS operating system. The PC is the host which shares its I/O devices with the QXL card. The QL's SuperBASIC has been superseded by the QXL's SBASIC. Both of the SMSQ and SBASIC replacements are supposed to be more robust than their original forms. Apparently, some quirks have been reluctantly retained for backward compatibility with existing software.

### THE HARD DRIVE

The immediate advantage of the QXL's hard drive is that each WIN0\_ is set up within individual DOS partitions. This was *not* obvious to me at first and is not clarified in the newly released manual, but is left up to the user to find out.

Out of ignorance, I had reserved an entire hard disk partition for the QXL to use. So, when I went to FORMAT win1\_24 and kept coming up "short" I was a bit perplexed. When I finally exited to DOS, I realized that my C: drive was now "full" and that there was a file called "QXL.WIN" in the C: drive DIRectory. HMMMmmm. Oh, I get it ... I FORMatted WIN2\_ and that appeared on my D: drive; WIN3\_ ended upon my E: drive; and, WIN4\_ was placed on my F: drive.

If your PC's hard disk is not partitioned, then you can only have one WIN0\_ drive. So, if you are using MS-DOS 6.0+, and were too lazy to partition the hard disk, then you may want to go back and partition it into separate hard drives.

Just as there are reasons to have hard drive partitions on your hard disk, there is definitely a reason for having separate WIN0\_ drives. I found, quite by accident, that it is easier than one would like to corrupt a WIN0\_ drive. I am pretty sure that my problems were the result of *misusing* FDFORMAT [Christopher H. Hochstaetter (Germany) via Tom Robbins].

My "user error" seems to create a problem for the rest of the system with both a 3.5" diskette and an SMSQ QXL.WIN file being corrupted. I think that the problem(s)

occur when I inadvertently tried to read a 1.2 meg PC disk in the 5.25" drive which has been (for all intents and purposes) setup (?) to read a 720K drive. On one occasion, all the previously unused blocks on my E: drive became "bad sectors" (i.e., unusable). Bummer. Clearly, this problem can be avoided by being less careless (i.e., better disk labeling). WOW.... Okay, the files on the 3.5" disk were dupes, but the contents on win2\_ were my DBEASY files! DON'T PANIC ... plenty of room on the life boats ... When I finally decided to DIR win2\_, it seemed that most of the DIRectory came up, until it came time for the screen to scroll the filenames. Abruptly, the QXL began to plod. Essentially, the QXL was *lost* while looking at a corrupted 24 megabyte file.

I exited to DOS and *looked* at the QXL.WIN file to see what might still be there: <file>, <file>, <file> ... followed by an SMSQ error access message. I reckoned that if the files were still *there* AND the DIRectory was still "there" that I might be able to COPY the files to another DEVICE.

The key was to find which file(s) did NOT COPY as this would surely hang up the QXL. In this instance, I determined that the last filename of the DIRectory was not available to me. Knowing that, I WCOPIed the contents of win2\_ to ram1\_ except for the last file. Obviously, if you have more than 4 megs of files, you should consider backing up to another DEVICE. I then re-FORMatted win2\_24, then WCOPIed the contents of ram1\_ back to win2\_. I then ran ARCHIVE from win1\_, typed RUN "R" (this is how I start DBEasy having renamed DBEASY\_PRG to R\_PRG), and it was surely my lucky day, because the program ran flawlessly, and all necessary files were accessed without any problems.

So, if you make the same mistake the odds are that you may have to reformat the particular WIN0\_ drive. Worse yet, you may have to re-FORMAT the host drive! The advantage of having multiple WIN0\_ hard drives as partition files on a PC host is that some diagnostic software for the QL may-or-may-not be available as of this writing.

**S**UPER MEDIA MANAGER may be useful, but, the one time I tried using it several years ago, it seemed to take quite a few hours to recover the files I wanted (including the learning curve). I am now very seriously considering getting a tape backup. Of course, if-and-when I get a tape backup for the PC host, I can selectively backup the QXL.WIN files exclusive of the PC files and sub-DIRectories.

### STAT WIN2\_

In the "early" days of getting acquainted with the QXL, I found that I could NOT get a DIRectory of win2\_ from within QUILL. This was a bit perplexing as I did not have this problem with QLAMBer. It turns out that each win0\_ needs to be accessed "manually" at least once before a PSION program (and, possibly others) can access

them. This was remedied by adding the statements:

```
STAT win2_: STAT win3_: STAT win4_: STAT  
win5_  
to a line of my BOOT. STAT returns the DEvIce name  
and its size.
```

Another situation (this is covered in the manual, but is worth noting) was that I initially forgot to indicate PAR\_USE "SER" (I think this has to indicate in upper case) and it appeared that SMSQ "crashed" when I went to PRINT a document. Fortunately, I had gotten into the habit of SAVing *before* PRINTing. Again, add the appropriate statement(s) to your BOOT program.

## THE SCREEN

The first thing that you cannot help but notice is that on a 13" VGA monitor the pseudo-QL's screen display measures only 9.5" diagonally. I recall once thinking that I wanted a ten-inch or

smaller monitor for my QL for portability. I was younger then. I do know that some people had made mention of using a 17" or larger monitor, but I am not certain that this will result in a larger net display since it will probably map out the pseudo-QL to a similar dimension, and not proportion.

I did try a composite monitor (on an EGA card), a CGA monitor (with a CGA card), and a TTL monitor (just for the heck of it). None of these produced a usable display. Being the naive one, I should think that a device driver could be written which would map the display to better "fill" a VGA screen. I'm not holding my breath for this development, though it may be resolved with the yet to be released version. I guess I could sit a little closer to the monitor.

*NOTE: Though I just received a new disk (labeled "SMSQ V2.47") from DIGITAL, it had "corrupted" files on it. I'll have to wait to see what changes were implemented.*

## THE KEYBOARD

Since the keyboard is hosted by the PC, you would think that there would not be any problems. This is not quite the case. The earliest versions of SMSQ did not map for what I will refer to as the North American layout established by IBM's Selectric series of typewriters (I may be incorrectly presuming that Canada has the same keyboard layout). SMSQ version 2.31 incorporates a KBD\_TABLE command which resolves this.

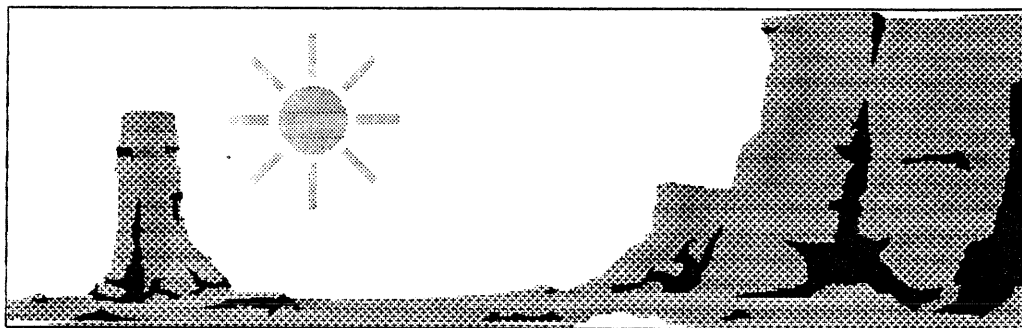
Regardless, a disconcerting QXL problem that I encountered was a *wildly erratic* keyboard. My host is a 20 MHz 386-DX clone with a Phoenix BIOS and a ZEOS RS keyboard.

Simply stated, when using QUILL the cursor would occasionally race all over the text. In the worst case sce-

nario, while attempting to delete a single character, lines-and-lines of text would disappear as the cursor "munched" along merrily until I hit the (ESC)ape key!

Well, the solution to this problem was discovered while I was tinkering with my QLAMBer program. At some point while making code changes I must have realized that the NUMLOCK key was "on" and I turned it "off" with the net result being that the DELETERious effect on the main part of the keyboard ceased. EUREKA.

BUT when running the QXL as a TASK under Task-MAX (DR DOS 6.0) a spurious character generation occurs when entering the QXL Task. Of course, this will



not be a factor if you have dedicated a host to your QXL card.

Trial-and-error discovery revealed that the spurious character generation can be aborted by pressing a <CTRL> + <any\_key(?)> combination. I use <CTRL> <C>.

My "tests" showed that you CANNOT cut-and-paste from DOS to SMSQ.

As far as I know, the QXL can not be RUN as a TASK from within WINDOWS 3.1.

## QXL/NT

Well, QXL/NT [as in "(e)x(cel)(e)nt" or "new technology"] is my designation for the yet unnamed (as of January 1995) 50 MHz 68060 daughtercard. If a 20 MHz QXL with SMSQ is supposed to be faster than a 50 MIPS work station, then you might well guess that this newest incarnation might be fast enough for Abed to use. (*You're getting warm Al.*) My guess is that it will be formally introduced at this Spring's MIRACLE in Oak Ridge (!?!).

Based on the recent price reduction of the QXL, I would guess that the QXL/NT's initial price might be similar to the "old" QXL prices. WOW.

## THE BOTTOM LINE

Based on hardware developments over the past three years, the QL apparently has "legs" and QDOS and SMSQ will probably remain as viable alternative to mainstream Operating Systems.

Consequently, your wallet should be the only restraint from your upgrading to a QXL(NT), or (SUPER) GOLD CARD.

I can't wait to see what the QXL/NT can do!

HAPPY TRAILS,  
AND COMPUTING, TO YOU ...

# Z88 - My Memory Surprise

by **Hugh Howie**

## An "IN USE" Problem

**R**ecently when using my Z88, I was bugged by not being able to save to a file that was already in existence. I also could not erase that file. I could load it, edit it, save it to another title, but not the original title. I was continually being told IN USE. I did note that the original title had 2478 bytes, but the second title had only 2477 bytes. It was much later I took any notice of that.

**A**fter a few hours of this and that, and trying many things, I decided to call Paul Holmgren and get his view on the problem. He made a few suggestions, none of which were of any value, then he asked "Have you tried a SOFT RESET?" I had not - did so, and problem solved. Now both titles had the same number of bytes. I can only presume that something had added an extra byte and caused the IN USE function to be activated.

**S**ince then I have had the same thing occur again, and a soft reset cures the problem - but I still would like to know what *CAUSES* the problem.

**A**nother thing Paul and I touched on was memory. After we got off the phone I took another look at the memory I had available, which was in the region of 238K. Now I do know that when I got the Z88 I had a 128K RAM card in #1 slot. On thinking, I came to the conclusion that the *originally fitted internal RAM* and the existing external RAM could not possibly add up to 238K with a number of records on file. How to find out was my problem.

**I** had noticed that all files were SAVED and LOADED from RAM 0, so I wondered what would happen if I SAVED to RAM 1, using

different titles of course to make sure all was in order. I discovered I had both sets of titles in different RAM numbers.

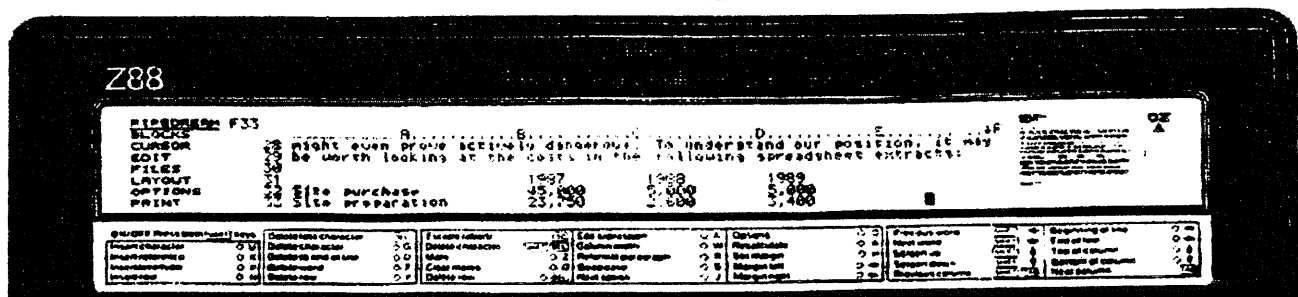
**N**ext stage was to remove the external RAM from its #1 slot, and see what was left. I still had well over 110K left! This now proved that there had to be not the original small RAM which I understood to be about 12K, but that I had an INTERNAL RAM of about 128K? So I, in this small machine must have 256K. Is that not WOW - in consideration of what I paid for it initially?

**P**lugged the external RAM back in, and I was back up to the 238K mark once again. I don't know what I have really, and I would have to erase all my files just to find out - and who cares anyway. All I know is I have oodles and oodles of memory. I can save to RAM 0 or RAM 1. just like a double disk drive! And none of those rattles and groans and grunts and BAD MEDIUM messages of the MDV's

**I** have been asked what I use my Z88 for. Well, I use it in the car and at home. I can have a number of files such as bank account, car expenses, tax account, diary of noteworthy dates, a notebook (have you seen my writing? I can hardly read it myself on occasion) and when I get home, I can transfer all that stuff to my QL disk system for safe storage.

**I**t frees up my QL's for other works. And I really do believe that the spreadsheet has many advantages over the QL system. Yes, a very handy little tool indeed.

**I** understand that Paul Holmgren and Frank Davis are selling them for \$230, including the 128K RAM, which is very favourable compared to the UK where the price is £99 plus shipping of £20 to the US and Canada.



(See Mechanical Affinity ad)

# Z88 — Power To You

by Hugh Howie

I have been reading what various folks have to say about the Z88 Power Supply, and the types of batteries to use, so I thought I would add my little contribution to the discussion.

When I first got my Z88, I had to use batteries, so, as I had some Ni-Cad lying around I used them, and I found that they worked fine. I had no real Problems. Perhaps I did not get the full twenty hours out of a set of batteries, but what I did get was quite adequate for me. Problem was that two sets were required, so I got a second set that was of a different manufacture as the first so that when a battery change was being made, there was no chance of a mix-up. I was happy with what I now had.

I eventually allowed myself to be convinced that the alkaline battery was the way to go. So I bought a charger and two sets of batteries, and right away I saw a problem - how to keep the two sets apart, so I solved that one by getting some very thin bright red plastic paper and pasted a strip about a half inch wide, around each battery of one set with this. Works great!

Yes! I do believe the Alkies last longer, as to brighter representation, I don't think so.

How do I keep my spare set in the traveling case I use for the Z88? Well, I had been putting some of that round plastic foam insulation on my hot water pipes, so I took a short piece about 8½ inches long, glued a plug in one end, inserted the batteries, and found a plastic plug for the other end. Now I have no more loose batteries rattling around.

This being Income Tax time, I, like everyone else, had to get out my old printing calculator, only to find that it was "Out of order" close inspection showed that one of the rubber bands that carry the numerals had broken. I guess it had deteriorated over the years, and just became brittle.

What to do now was the question, so I hied over to my local Business Depot, and found I could get a 6 x 8 inch printing calculator for \$39.95, which was a lot less than what I paid for the broken one, and less than a repair job would probably be.

The digital display was about ¾ of an inch high, gosh, even I can read that size! This little beastly also worked off four AA batteries, so I brought one home with me, inserted my old Ni-Cad batteries, and off to the races. Boy! could that little thing really trot! Did as much as my old expensive one ever did, and equally fast too.

The price also included an adapter, so I had a printing calculator using the standard 2¼ inch paper, that works off both

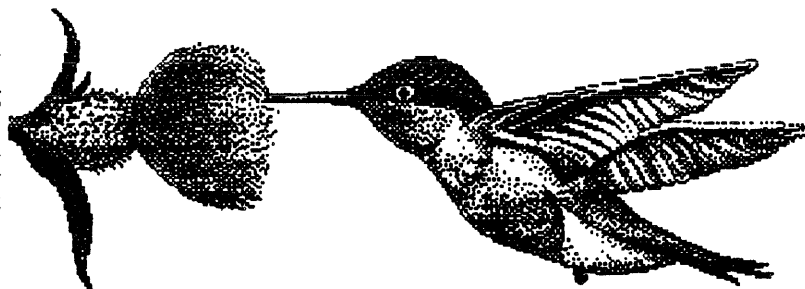
battery and mains — what more can a man ask for?

I looked at the adapter. Thought about the four AA batteries — Six volts. What was the adapter end like? Looked awful like the end that would fit into the Z88. Plugged the adapter into the wall, out with the voltmeter, checked voltage. Yep, OK, checked if center was positive, Yep. Hey man! this could work the Z88! Plugged it into the Z88 orifice, OK. Removed the batteries, OK. Okay! I now had a mains powered and battery powered Z88, and also a mains powered and battery powered Printing calculator. All portable! The one adapter can be used for both units. I can't complain about that — could, or would you?

Now in case you are interested, the calculator is a Canon P20-DH. The adapter used is a Canon AD-11. 6 volts, 300 ma.

I now have a portable computer, and a portable printing calculator with large display.

With that setup I would not call the King my cousin. Would you?



# COMPUTUS INTERRUPTUS 2

The Joy of Using Interrupts

by Wes Brzozowski

Response to Part One of this series has been quite gratifying so far. However, from what I've heard, it seems that a little "fine tuning" of the format is in order. Essentially, we'll do fewer things in each installment stretch the series out longer, and give a little more attention to detail. This will give those new to the subject a little more help and time to catch-up. It also means that we won't cover as many things this time as promised, but it will all get done, eventually.

I hope readers who own or have access to a TS-2040 printer have tried out the demonstrator program. If not, it would be worthwhile to do so before reading further. Now back to the questions.

## 6 How does the demonstrator work?

Pretty well! Seriously, let's first look at what the demonstrator sets up in memory, and then we will see how it all works together. Understanding this description will require a bit of knowledge of machine code, but only a bit. The demonstrator has been written to be understood by as wide an audience as possible. (That audience will also need a little persistence, though)

Line 30 **CLEARs** the necessary space for the

```

10 REM IM2 Demonstration Progr
am
20 REM Causes a Copy-Screen Wh
en BREAK and SYMBOL-SHIFT are pr
essed together.
30 CLEAR 65020
40 FOR j=65024 TO 65280: POKE
j,253: NEXT j
50 POKE 65021,195: POKE 65022,
8: POKE 65023,253
60 FOR j=65281 TO 65314: READ
k: POKE j,k: NEXT j
70 DATA 62,254,237,71,237,94,2
01,245,197,213,229,62,127,219,25
4,246,224,254,252,32,6,243,6,192
,205,5,10,225,209,193,241,195,56
,0
80 RANDOMIZE USR 65281
    
```

Interrupt software. Line 40 fills memory locations FE00H (65024) to FF00H (65280) with FDH (253). Line 50 places a JP FF08H (65288) instruction at location FDFDH (65021). Lines 60 and 70 load the following machine code, starting at location FF01H (65281).

I've divided the code into five blocks, whose meaning will be explained shortly.

Line 80 executes machine code at location 65281, which, not so coincidentally, is equal to location FF01H in the machine code listing. Only block #1 is executed, since it ends with a RET instruction. Block #1 loads FEH (254) into the I-

register, and sets the machine into Interrupt mode 2, whose operation was explained last time.

ADDR	HEXCODE	LABEL	MNEMONIC
FF01	00		LDI 00
FF02	00		LDI 00
FF03	00		LDI 00
FF04	00		LDI 00
FF05	00		LDI 00
FF06	00		LDI 00
FF07	00		LDI 00
FF08	00		LDI 00
FF09	00		LDI 00
FF0A	00		LDI 00
FF0B	00		LDI 00
FF0C	00		LDI 00
FF0D	00		LDI 00
FF0E	00		LDI 00
FF0F	00		LDI 00
FF10	00		LDI 00
FF11	00		LDI 00
FF12	00		LDI 00
FF13	00		LDI 00
FF14	00		LDI 00
FF15	00		LDI 00
FF16	00		LDI 00
FF17	00		LDI 00
FF18	00		LDI 00
FF19	00		LDI 00
FF1A	00		LDI 00
FF1B	00		LDI 00
FF1C	00		LDI 00
FF1D	00		LDI 00
FF1E	00		LDI 00
FF1F	00		LDI 00
FF20	00		LDI 00
FF21	00		LDI 00
FF22	00		LDI 00
FF23	00		LDI 00
FF24	00		LDI 00
FF25	00		LDI 00
FF26	00		LDI 00
FF27	00		LDI 00
FF28	00		LDI 00
FF29	00		LDI 00
FF2A	00		LDI 00
FF2B	00		LDI 00
FF2C	00		LDI 00
FF2D	00		LDI 00
FF2E	00		LDI 00
FF2F	00		LDI 00
FF30	00		LDI 00
FF31	00		LDI 00
FF32	00		LDI 00
FF33	00		LDI 00
FF34	00		LDI 00
FF35	00		LDI 00
FF36	00		LDI 00
FF37	00		LDI 00
FF38	00		LDI 00
FF39	00		LDI 00
FF3A	00		LDI 00
FF3B	00		LDI 00
FF3C	00		LDI 00
FF3D	00		LDI 00
FF3E	00		LDI 00
FF3F	00		LDI 00
FF40	00		LDI 00
FF41	00		LDI 00
FF42	00		LDI 00
FF43	00		LDI 00
FF44	00		LDI 00
FF45	00		LDI 00
FF46	00		LDI 00
FF47	00		LDI 00
FF48	00		LDI 00
FF49	00		LDI 00
FF4A	00		LDI 00
FF4B	00		LDI 00
FF4C	00		LDI 00
FF4D	00		LDI 00
FF4E	00		LDI 00
FF4F	00		LDI 00
FF50	00		LDI 00
FF51	00		LDI 00
FF52	00		LDI 00
FF53	00		LDI 00
FF54	00		LDI 00
FF55	00		LDI 00
FF56	00		LDI 00
FF57	00		LDI 00
FF58	00		LDI 00
FF59	00		LDI 00
FF5A	00		LDI 00
FF5B	00		LDI 00
FF5C	00		LDI 00
FF5D	00		LDI 00
FF5E	00		LDI 00
FF5F	00		LDI 00
FF60	00		LDI 00
FF61	00		LDI 00
FF62	00		LDI 00
FF63	00		LDI 00
FF64	00		LDI 00
FF65	00		LDI 00
FF66	00		LDI 00
FF67	00		LDI 00
FF68	00		LDI 00
FF69	00		LDI 00
FF6A	00		LDI 00
FF6B	00		LDI 00
FF6C	00		LDI 00
FF6D	00		LDI 00
FF6E	00		LDI 00
FF6F	00		LDI 00
FF70	00		LDI 00
FF71	00		LDI 00
FF72	00		LDI 00
FF73	00		LDI 00
FF74	00		LDI 00
FF75	00		LDI 00
FF76	00		LDI 00
FF77	00		LDI 00
FF78	00		LDI 00
FF79	00		LDI 00
FF7A	00		LDI 00
FF7B	00		LDI 00
FF7C	00		LDI 00
FF7D	00		LDI 00
FF7E	00		LDI 00
FF7F	00		LDI 00
FF80	00		LDI 00
FF81	00		LDI 00
FF82	00		LDI 00
FF83	00		LDI 00
FF84	00		LDI 00
FF85	00		LDI 00
FF86	00		LDI 00
FF87	00		LDI 00
FF88	00		LDI 00
FF89	00		LDI 00
FF8A	00		LDI 00
FF8B	00		LDI 00
FF8C	00		LDI 00
FF8D	00		LDI 00
FF8E	00		LDI 00
FF8F	00		LDI 00
FF90	00		LDI 00
FF91	00		LDI 00
FF92	00		LDI 00
FF93	00		LDI 00
FF94	00		LDI 00
FF95	00		LDI 00
FF96	00		LDI 00
FF97	00		LDI 00
FF98	00		LDI 00
FF99	00		LDI 00
FF9A	00		LDI 00
FF9B	00		LDI 00
FF9C	00		LDI 00
FF9D	00		LDI 00
FF9E	00		LDI 00
FF9F	00		LDI 00
FFA0	00		LDI 00
FFA1	00		LDI 00
FFA2	00		LDI 00
FFA3	00		LDI 00
FFA4	00		LDI 00
FFA5	00		LDI 00
FFA6	00		LDI 00
FFA7	00		LDI 00
FFA8	00		LDI 00
FFA9	00		LDI 00
FFAA	00		LDI 00
FFAB	00		LDI 00
FFAC	00		LDI 00
FFAD	00		LDI 00
FFAE	00		LDI 00
FFAF	00		LDI 00
FFB0	00		LDI 00
FFB1	00		LDI 00
FFB2	00		LDI 00
FFB3	00		LDI 00
FFB4	00		LDI 00
FFB5	00		LDI 00
FFB6	00		LDI 00
FFB7	00		LDI 00
FFB8	00		LDI 00
FFB9	00		LDI 00
FFBA	00		LDI 00
FFBB	00		LDI 00
FFBC	00		LDI 00
FFBD	00		LDI 00
FFBE	00		LDI 00
FFBF	00		LDI 00
FFC0	00		LDI 00
FFC1	00		LDI 00
FFC2	00		LDI 00
FFC3	00		LDI 00
FFC4	00		LDI 00
FFC5	00		LDI 00
FFC6	00		LDI 00
FFC7	00		LDI 00
FFC8	00		LDI 00
FFC9	00		LDI 00
FFCA	00		LDI 00
FFCB	00		LDI 00
FFCC	00		LDI 00
FFCD	00		LDI 00
FFCE	00		LDI 00
FFCF	00		LDI 00
FFD0	00		LDI 00
FFD1	00		LDI 00
FFD2	00		LDI 00
FFD3	00		LDI 00
FFD4	00		LDI 00
FFD5	00		LDI 00
FFD6	00		LDI 00
FFD7	00		LDI 00
FFD8	00		LDI 00
FFD9	00		LDI 00
FFDA	00		LDI 00
FFDB	00		LDI 00
FFDC	00		LDI 00
FFDD	00		LDI 00
FFDE	00		LDI 00
FFDF	00		LDI 00
FFE0	00		LDI 00
FFE1	00		LDI 00
FFE2	00		LDI 00
FFE3	00		LDI 00
FFE4	00		LDI 00
FFE5	00		LDI 00
FFE6	00		LDI 00
FFE7	00		LDI 00
FFE8	00		LDI 00
FFE9	00		LDI 00
FFEA	00		LDI 00
FFEB	00		LDI 00
FFEC	00		LDI 00
FFED	00		LDI 00
FFEE	00		LDI 00
FFEF	00		LDI 00
FFF0	00		LDI 00
FFF1	00		LDI 00
FFF2	00		LDI 00
FFF3	00		LDI 00
FFF4	00		LDI 00
FFF5	00		LDI 00
FFF6	00		LDI 00
FFF7	00		LDI 00
FFF8	00		LDI 00
FFF9	00		LDI 00
FFFA	00		LDI 00
FFFB	00		LDI 00
FFFC	00		LDI 00
FFFD	00		LDI 00
FFFE	00		LDI 00
FFFF	00		LDI 00

From here on, the TS-2068 is doing something new that it does not ordinarily do. Every time an Interrupt occurs, the machine has to find out where it is to execute the Interrupt code. It gets the upper byte of an address from the I-register and the lower byte from the data bus. This combination is the ADDRESS OF THE ADDRESS of the Interrupt handler. It will become clearer (hopefully) as we "walk through" what happens.

When the TS-2068 gets an Interrupt it looks to the I-register and the data bus to generate the address FExx, where xx is a number that is not known because the TS-2068 mysteriously puts different values on the data bus at different times. The TS-2068 will then look to memory location FExx for the address of the Interrupt handler, and then run the code wherever that happens to be.

However, the BASIC program filled all memory locations from FE00H (65024) to FF00H (65280) with the number FDH (253), so no matter what value FExx happens to be, the TS-2068 will find FDFDH (65021) when it looks there! This is where it will start to execute the Interrupt handler.

Unfortunately, FDFDH (65021) is just 3 bytes less than FE00H (65024), where the "kluge block" of FD's is located. There's not room for much code, but there's just enough space for the JP FF08H (65288) instruction that the BASIC program put there. This means that the Interrupt handler will continue at location FF08H or, block #2 in the machine code listing. (It gets a lot simpler from here on, honest)

If the explanation seems murky so far, it's O.K. to forget it for awhile. Just take my word for it that the aforementioned code makes it appear that an Interrupt will cause code to be executed at location FF08H (65288). This is where our true Interrupt handler is to be found.

The handler begins with block #2, which saves all of the registers. We do this so that we can leave them as we found them when we're done. This will ensure that we don't disrupt the program that was running when the Interrupt occurred.

Block #3 reads a small portion of the keyboard. We won't cover keyboard scanning here, but block #3 causes block #4 to be skipped if the BREAK and SYMBOL SHIFT keys are not being pressed simultaneously.

Block #4 causes the screen to be copied. Before CALLing the screen copy routine in ROM, we load B with the number of pixel lines to be copied. Changing this would allow us to COPY only part of the screen.

Block #5 prepares the computer to leave our Interrupt handler. All registers are restored to their original values. Note that the first item that POPs off the stack is the last item that was PUSHed on. This means the registers must be restored in reverse order.

Ordinarily an Interrupt handler ends with RETI (similar to RET) instruction. In this case, we'll end it with a JP 38H (56), which jumps to the normal Interrupt handler. This allows the normal Interrupt functions of keyboard scanning and updating the system variable FRAMES to be performed.

## **7 YOU MENTIONED COPYING ONLY PART OF THE SCREEN, HOW IS THIS DONE?**

By LOADing a different number into the B register before CALLing the COPY routine, You can change the number of lines printed in the following way. Suppose that LINES = the number of lines of characters (from the top of the screen) that you want to COPY. Just POKE 65304, (8 X LINES). The handler is now setup to COPY only part of the screen.

## **8 WHAT OTHER THINGS CAN AN INTERRUPT HANDLER DO?**

By reading the system variable FRAMES, which is incremented every 1/60th of a second a nice real time clock can be made, that flashes the time up on some unused part of the screen, even when you're running other programs, FRAMES isn't updated when the Interrupts are disabled so the clock "stops" whenever you use cassette I/O, the TS-2040 printer, or the BEEP commands and resumes when you are done. Still, it's a free, "software only Clock".

If the Interrupt handler were linked to a hardware real time clock, the clock wouldn't stop at all.

Among other uses is an item called a print spooler. Printers are very slow compared to the computers running them, and the computers spend most of their time waiting while the printer is running.

It's possible to send LPRINT commands to a buffer area in memory, and have the Interrupt handler "pick up" this data and print it one character per Interrupt.

This would allow the printer to run at up to 60 characters per second while you're doing other things with your computer. In other words, you could be RUNning or ENTERing a program at the same time as the computer is printing something else. Those who've used such a feature on an IBM PC or other computers will agree that it is a great time saver.

Another use is a program that reads and "stacks up" keyboard entries before the computer requires them. When an INPUT is needed, it gets it from this stacked up data. This is called a keyboard buffer, and it's also very convenient.

Since the Interrupt is synchronized to the video displays it's possible to change the BORDER color some fixed time after the Interrupt and obtain a "full screen horizon" that extends into the border area. The Spectrum game *Aquaplane* does this, but the required timing may be different to make the effect work on the TS-2068's 60 Hertz Interrupt. (The Spectrum uses a 50 Hertz Interrupt.) I've not seen the game working on a TS-2068, but the effect is still available to us.

These are items that come immediately to mind. Other less obvious uses are out there. One that I'm considering involved my software that makes BASIC work in the 64 column mode. Certain keyboard inputs cause the computer to change a system address table in an undesirable manner. I expect to use the Interrupt to "change the table back" before any harm is done.

There are many other uses.

## **A PROLOGUE**

Doug Dewey, member extraordinaire, of the Triangle Sinclair Users Group, tells me that merely adding pull-up resistors to a Spectrum emulator as suggested last time, doesn't clear up all of the problems related to certain "un-RUNnable" Spectrum programs. He's sending me copies of some programs, and I'll be checking them out especially in understanding the way the Spectrum handles the data bus during Interrupts and whether my "fix" works as expected on all machines.

Next time (or in later installments) we should be looking at the problems of relocating the demonstrator code, of the (solvable) problem of doing something like the demonstrator on a TS-1000, and constructing hardware to make use of the TS-2068 Non-Maskable Interrupt. Those looking for a challenge should try to relocate the demonstrator to reside in the 16-32K memory region. When a certain part of the Interrupt software resides in the same 16K region as the display file, something interesting happens. It still works, but ...



**T**imes are changing. Woodstock 1994 has just run its muddy course, and the cries of liberation from 'the system' that brought the 'computers to the people' movement onto the fringes of the peace movement and an underground press freed due to technology, all that 60's stuff, flood back. It seems so recent. How things have changed! The computers that 'the people' did get, have become part of an urban pieceworker/24-hour on-call-employee, economic system which is not particularly liberating at all. The cheapness of publishing has reached the point, however, that personal publishing is within the reach of just about anyone with a minimum of know-how. But it has led to a new form of co-op publishing, which is something similar to network publishing/BBS text files, in that the writers for a new generation of small, personal, and specialized publications, commonly called 'Zines' (short for magazines or fan-magazines'), may have never met face-to-face, and send their material in mainly by modem, (and not to BBS systems or commercial networks, mostly but person-to-person), starting the session with a voice telephone conversation. This means that contrary to what George of Toronto Sinclair User Club said recently, it is quite normal today to run a publication with the officers/writers/editors spread out across the country. It is not even necessary to have a modem, (I don't), since the bandwidth of a 50¢ stamp is considerable when used to carry a diskette across country. Anyway, times are changing, and it would be a shame to see the user Group movement fold, just on the basis of things like this.

**A**ll this brings back not-too-pleasant memories of the Ottawa TS group folding. While the club newsletter folded, this one continued on a reduced scale but there are no plans ever to simply halt. The last year saw one supplementary newsletter like this, and perhaps the photo-reduced, small format newsletter has more issues left to go. So it continues indefinitely if sporadically, in other words. The only change is the decision to take material out of the public domain since with few newsletters left to republish it, that makes little sense. The original reason for putting material in the public domain in the cost, (aside from a challenge from the Texas TS group), was to facilitate copying without red tape of asking for permission or worrying about legal technicalities. Now all such permission has been withdrawn, since for material other than that submitted by myself to other newsletters (and there is still tons of still in drawers here, unpublished), it looks like there will be few hobby publications to publish them. So I might as well keep the copyright since some of the material may get sliced into my own writing on various subjects (techno-trends and techno-history is the current writing interest in a relate field).

**B**ut there are other, rather important reason to continue. There are things to do. What can this newsletter offer? One thing is celebration of the liberation from a stuffy educational system that has lost its touch, at least for education of the ordinary student in subjects of close job and modern mathematical relevancy, this liberation brought by the near universal availability of home computers. We can add practical help with reader self education especially in programming. And the final one: a boost for BASIC, the programming language despised by the educational establishment, but still, just about the only programming language a beginner can learn, almost alone. Since a beginner cannot learn it completely alone, there lies a task for such a newsletter as this, emulators, simulators, word processors and databases all look remarkably simple from within, if the simplest possible BASIC programs are used to explain them. Computer software is to mathematical education today, what reading and writing was by way of a con commitment, in ancient times. So here is to a revised newsletter, featuring, BASIC and TS home computers.

## Great Blue blazers and Other Incendiary Topics

The question of why anyone would turn their coat and run into the arms of the blue-blazing IBM clone world, has again reared its ugly flaming head. Why not? They certainly are cheap, 286's selling for a couple of hundred used here (even though those like the writer see no need to trade in the 8088, with less than a full unit of Norton SI seed). The clone world has finally caught up with the pocket-book size of even ZX-TS users. Perhaps in the future, outside of museums, the only TS computing, will be inside clones with software emulators. But that does not mean that the TS BASIC'S need be abandoned for others. And since CP/M emulators for clones are easy to find and cheap (How is free? Cheap enough?), the CP/M side of the Z-80 (and former QL CP/M emulator users) Sinclair computers can continue too. (Maybe CP/M command line use will live almost as long as MS DOS command line, now that MS Windows and its quasi-clones, are replacing MS DOS command line interface in clones. And it all started in DEC computers and Victorian era telegraph systems, according to my historical techno-archaeology.) So, why not both?

**T**he second question is, why not turn TS groups into programming workshops, specializing in old computer hobbyist languages like PASCAL and even BASIC interpreter programming. This thought was greeted with terrific ennui every time I would propose it at meetings of our now-defunct Ottawa-Hull TS User Group in various ways and versions, over the last years. At least it would have helped the kids, some new youngsters coming to the last meetings of our club, looking for such talk and tutoring in techno-literacy. Whether BASIC deserved it or not,



academics shunned it, making our BASIC an orphan language just as the home-type computers were orphaned by their manufacturing supporters in the 1980's. A good academic question is whether it was BASIC or the computers being orphaned that ended most user groups.

### "What To Do?" Is Today's Question

The question now, is what to do with our hobby and the organizations that have been painstakingly built up. My suggestion is to keep them going in some fashion for their educational value. Kids today do not have much chance of really learning the interesting and essential mechanics, at school. It is a mathematical job world out there today, and the school system is, pardon my French, royally confounded when it comes to teaching the same, and the fundamentals of structure why it all works, when it comes to computers. To make a bold prediction, we will see that in the next 50 years, computers as boxes processing separable software, will die out, (except for niche markets). Software will be embedded in ever-cheapened boxes and world economic dominance will go to whatever major power (economically) whose kids master this best. And it is the computer user groups with their expertise in combining hardware knowledge as it relates to low level software and programming affecting it, that know this and can teach it. End of sermon. Let's just not waste this opportunity to give our kids a boost up. There is no one else; just believe me.

### The Problem With BASIC — (Part I)

Within a newsletter which has just (see previous page) been thoroughly and wholeheartedly committed to continuing support of BASIC as a computer language for those rare individuals who cannot resist taking things apart, in this case types of computer software, to see exactly what makes them tick, starting by offering a gratuitous criticism of BASIC may seem just slightly peculiar. However, let us be honest about our favorite computer language it does have its theoretical flaws. The fact that no other full language was available to most home computer owners in the 1980's, (and buyers consistently rejected home computers with FORTH installed in ROM rather than BASIC), may seem to point to the fact that we BASIC programmers are simply making a virtue out of what started as a necessity and became a habit. But be that as it may, true or not, BASIC is both defensible and meriting some criticism. (About FORTH, one might say that it too was not a complete language in that it never, at least in its versions of the 1980's got a built-in floating point number data type or stack, and may have failed due to lack of such features which would have made it easier to use, like screen handling and graphics modification commands. Imagine bit twiddling with fast FORTH.)

One of the criticisms of BASIC revolves around some of the structure that it lacks, even though it abounds in features in many dialects. But if you look at its competitors, like the structured Pascal and MODULA, you will see they lacked a lot of features that make BASIC easy to use, and cannot be considered, especially MODULA which never became popular (as it deserved to be), full featured. In addition, Pascal, it seems, did not start life without the GOTO,

philosophical phobia trigger of so many BASIC critics. ALGOL, Pascal's predecessor, much praised for being rational at the time, by the usual purists, used GOTO, long before it was discovered that ALGOL programs without GOTO were always an alternative for the programmer, something not realized previous to the letter to the editor of ACM/Communications, by Prof. Dijkstra (1968) and his earlier remarks (1965) and work of van Wijngaarden, in 1968. (Ref. Yourdon)

A second criticism laid on BASIC, is that its many dialects make it a nonstandard and unstandardizable language. Of course this was a result of BASIC prospering and spreading, the languages which died or backed into shrinking niche markets early on, never getting to that point. (What if Pascal had prospered to the point where TURBO Pascal had been just one dialect that had moved far away from standard Pascal. Actually, on second thought it is, with a claim for at least three incompatible dialects, all of them various vintages of TURBO Pascal!) As our local group member and Pascal booster, David Solly remarked once, those who criticize BASIC for its dialects, likely do not realize that it is just showing the behavior characteristic of languages, and more notable among natural languages like English, French and Dutch, ones Dave was quite familiar with, being a language buff that is, developing differences that we call dialects, etc. and just plain evolving with time.

Looking at the alternative those critics of BASIC offer today, C language, one sees that it lacks the logic admired in Pascal and MODULA, has a host of dialects now, that hated feature of BASIC by some of its critics, and is in reality a souped up, stripped down hacker language, flagrantly exhibiting a third point usually used as a criticism of BASIC, the way BASIC was used and abused by hackers and small time programmers in the microcomputer era.

But BASIC does have its faults. Let us be quick to admit them. But these are not unconnected with its virtues. Its virtue was that when it was devised, in 1965, long before microcomputers it was designed to run on terminals, and its line-at-a-time interpretation which slows it and reduces its structure to a rather fragmented form was simply necessary, given roll paper scrolling and primitive editing, lack of computer time to share, etc. If things had gone differently, this also could have been a big advantage in the world of microcomputers, in adapting BASIC interpreters to simple substitutes for true, low-level multi-tasking, but that never caught on in microcomputers, CP/M and MS DOS modeling themselves on OS/8 and OS/10 of DEC rather than UNIX.

The second weakness of BASIC is its reliance on variable length data structures of strings and later disk files, like DEC operating systems and terminals that were originally used by telegraph companies to send messages of various lengths. Anyway, that is too important a point not to discuss in detail which we can do another time. Stay tuned for article II.

# Daisy Be Good - II

by David Lasso

We continue discussion of Bill Jones' suite of Word Processors for the TS-2068. So, get out your disk, Daisy.B6, Disk No.1.

Upon AUTOSTART, copyrighted banner comes up with a little tune and a request, that you "Press A Key..."

For the second prompt, we press 2, since we normally wish to use our Brother M-1109, a dot matrix printer. Press 3, in case you have not yet matched the program to your printer via a customized routine "stymn.B6" and menu "ps.C1". Press 1 will allow you to follow along, using the TS-2040 as a printer for your word processing.

The third prompt requests, that you describe your printer interface. We select 1 for our AERCO Centronics Printer Interface. Select 2 for Tasman CPI or 3 for A&J. Right now, we need software-generated line feeds. So, we answer Y to this fourth question.

Right Margin Justify is about the best thing to appear in home computing software, that we have ever seen. So, Y is the answer to the prompt #5. As you see, we like to indent the first line of our paragraphs by five spaces. So, we answer the last question in the affirmative.

This brings on the Function Menu. Notice Turbo = 1. We have just LOADED that incarnation of Daisy, which handles Input/Edit. The Main Menu for this facility is the Quickie Menu. So, we press 1, press 1 again (for Daisy dB Manager,) and get it straight-away.

In the Input/Edit mode, the principal application routines are "inpt.B6", "edt.B6", and "cat.C1". Other application routines are Deleted and these last three are Merged in, whenever Turbo is changed to 1 or to 3, or whenever Input-Edit is selected at the Function Menu (as option #1.) Or, of course, they can already be on board, as in this case of the AUTOSTART selection on the Daisy disk. And, by the way, the Quickie Menu is the "Daisy dB Manager."

Should we "Press Select" item "1. Typing," we are presented a blank screen with a brief display on line 22 of "Arrows = EditCap+SymShf = Menu". This is Bill's on-line indication of a way back out of the typing screen and in to the Quickie Menu, similar to the "Function Keys" of Mscript. In the Input/Edit mode of Daisy, we have two phases, the Input phase and the Edit phase.

With the departure of the display on line 22, we enter the input phase, which accepts keyboard input at typewriter speed (at least 30 wpm) and builds a "typing buffer", called u\$. Any cursor movement with the *arrows* enters the edit phase. In order to re-enter the input phase, simply hit the Enter key. Now, hit "Cap+SymShf", in order to get the Q menu back onto the screen.

Should we "Press Select" item "2. Re-ed", we are presented with a menu of 21 choices. Choice #21, Abort, gets the Quickie Menu back with no potential damage done. The other 20 choices place any of 20 data strings on screen for editing in edit mode. Whenever in the edit mode, a press of the pound key "#" introduces us to Block Delete and Block Insert. Enter resumes a slower input mode. # implements a block insert (at the underline symbol) of L\$, another string, or just arbitrary typing, upon hitting the Enter key. As before, "Cap+SymShf" allows us to escape to the Quickie Menu.

## Select Data to EDIT

<1> H\$(1)	<13> I\$(1)
<2> H\$(2)	<14> I\$(2)
<3> H\$(3)	<15> I\$(3)
<4> H\$(4)	<16> I\$(4)
<5> H\$(5)	<17> I\$(5)
<6> H\$(6)	<18> I\$(6)
<7> H\$(7)	<19> I\$(7)

15> Typing	18> C\$
16> A\$	19> D\$
17> B\$	20> E\$

21> Abort  
Enter Choice:

"3. Store" allows us to store (in RAM) each of h\$(1), h\$(2), ... , h\$(7) and i\$(1), i\$(2), ... , i\$(7), in that order, after we enter a paragraph length, one for the h's, another one for the i's.

"4. Help" takes us back to the Function Menu.

"5. Delete Buffer" allows the user to reinitialize the typing buffer (u\$), without storing it into one of the h's or i's.

You are left with an empty screen in input mode, as in section #1.

"6. View/Edit Array Cells" permits the user to view and edit any of the h's or i's. *Very handy!!!!* But, the edit mode, here, requires patience and is nevertheless very handy.

"7. Word Replace, Global" searches each of the h's, i's, and selected other strings for a desired word, and replaces it with an even more desirable word.

"8." allows typed input to the L\$ string, the same one that can be entered at selection #2, above at "Block Insert".

"9." cycles the input cursor between "L" and "C". "reinitializes all the h's, all the i's, all the h's and i's, or none at all. Any reset is to a single blank character.

"," allows us to create colorful screen strings, such as menus or opening broadsides, *fascinating*.

"<" permits us to LOAD (from disk) character arrays into the h's, the i's, or all at once.

"=" permits us to also SAVE (to disk) character strings of ASCII characters: the h's, the i's, the h's and i's, or the *entire* variable file.

"Buffer = NNN" indicates the number of characters (NNN) in the current typing buffer (u\$).

"Cell Limit = NNN" indicates the number of characters (NNN) in current h or i, being filled. Note, that NNN also indicates the maximum number of characters of the typing buffer (u\$), that will be *stored*, by invoking option #3. So, frequent reference to these numbers will allow trouble-free entry of paragraphs into your growing letter or document.

"H-i" indicates which data buffer h\$(i) is being filled, by *storing* the typing buffer (u\$) at item #3.

"I-j" does the same, when working on i\$(j) ..

"FREE=NNNNN" indicates the amount (NNNNN) of free RAM, remaining for the 2068 to conduct string editing and other operations. The same information appears on the Function Menu, as well as other menus throughout Daisy, since memory utilization is so critical in the 2068.

"L\$=k" indicates the current number (k) of characters in the L\$ string, much used for Block Insert, as above, and for Block Delete, as the deleted material is automatically stored in L\$.

And, lastly, "ed" is the BASIC address (ed=2926), to which transfer should be made, in order to recover the Quickie Menu display from most places of the program. For example, break into the program and type "GOTO ed" or "GOTO 2926". Similarly, "GOTO fin" or "GOTO 2070" will recover the Function Menu display.

Next time, we will continue, by discussing the next entry on the Function Menu, #2, Print Header.

## Daisy Update

We continue to describe the operations of our new and improved Daisy word processor, using our TS2068, LKDOS (L3), and 9-pin printer Brother M-1109. This time, we talk about the Quickie Menu.

Just as the Daisy dB Manager comes up in Bill Jones' original formulation, *only* when Turbo = 1 or Turbo = 3 holds, so the Quickie Menu appears *only* in In+Ed.B6 and ManAd.B6, respectively.

Please read the other article on Daisy this issue for standard details on the Quickie Menu. Here, we will indicate how we use this menu to accomplish the most amazing amount of satisfying work production.

Typically, we start entering a letter or document, by LOADING In+Ed.B6 from disk. The Function Menu comes right up with no prompting, as there is no printer to initialize in this current effort to enter a letter, or other document, into a disk file as a character array.

Next, we *press* 1, in order to commence Input-Edit. Now faced with the Quickie Menu, we enter Input mode, by *pressing* 1. This results in a brief reminder on line 22, that use of the cursor arrows leaves Input mode and enters Edit mode, and that Pressing Cap-Shf and Sym-Shf at the same time will return us to the Quickie Menu.

Entering Input mode, we type away (at "TURBO speed", according to Bill). Our typing is captured in string u\$.

After typing in our first paragraph, we *press* Cap-Shf and Sym-Shf together. At the Q Menu, we observe Buffer = MMM and *press* 3, in order to Store our typing buffer (u\$) in RAM, before something happens to it. Of course, we have to input a length for this, our first paragraph, which will go into H\$(1). This input 1 can be any number with MMM <= 1, and 1 will be used to DIMension all of

h\$(1), h\$(2), ... , h\$(7), in order to store our first seven paragraphs.

What is the best value for 1, the "magic number"? Well, anything at least MMM will do, and Bill's suggested value of 700 stores a paragraph of about one screenful. But, 704 not only stores a screenful and stores the entire h\$ character array in *only* one track of the disk at item "...", but also permits a *very* nice display of the h\$ array as a "disk file" in program Po+Mm.B6, which is usually used for printing our letter/document, but lacks the sophisticated display facilities of In+Ed.B6.

In order to check our progress, we get the Q Menu on-screen and *press* 6. Here, we can cycle through each of our paragraphs, as Stored in h\$(1), h\$(2), ... , h\$(7), i\$(1), i\$(2), ... , i\$(7), edit them, and return to the menu.

The edit mode is performed *slowly* and in BASIC. The input mode is performed *quickly* and in cat.C1, which is Don Lamen's MC program. Bob Swoger calls it a "Journaling Program". The *slow* edit mode is the *only* drawback, we have found with Daisy; so, that's not so shabby !!!!

We mention this, *only* because Larry Kenny's Mini Word Processor is all in BASIC, and it is *not only* as fast on input, *but also* as fast on edit, with no letdown in speed between input and edit. This code comes from Larry's "Sequential/Random Access Files" and must be similar to what he had in mind for his "LarKen Desk Top Publisher", which will probably never appear !!!

Bill's editor is elaborate and implements all of Header Entry, Block Insert, String Insert, Block Delete, Back Shift, Right Shift, Line Feed, Cursor Up, character Delete, and Resume. Larry's code implements all of text Enter, text Insert, text Delete, text Erase, cursor Move (all), Escape, and Newline. MWP works fine for Max-Com!!

As far as we can see, we are considering a singularity of Bill's code, which can *only* be removed, by replacing inpt.B6, edt.B6, and cat.C1. But, can the many features of edt.B6 be replaced? And, this entire input/edit facility is a foundation of Bill's Dbms code, also.

Well, it's best not to make too many mistakes in the first place !!

Oh, yes, option #7 (Word Replace, Global) is also in BASIC and *slow*. But, in this case, we are not talking about searching a *giant* data base and progress *is* shown on-screen. So, it is not at all troublesome, even though slower than both Larry's MC search in MWP and Tom Wood's MC search in PROFILE.

In our copy of Daisy, the original code for #9, to Cycle Caps, had to be repaired for our new and improved version.

And, *lastly*, item "...", for "Macro Mgt" is *fascinating*, incorporating the 2068's color capabilities into the construction of beautiful banners. This is one of the reasons for our loss of interest in the TS1000 as our primary personal computer !!

# MECHANICAL AFFINITY

The following are now available from Mechanical Affinity for your Sinclair home or business computer. Most items listed are available in quantity. Orders may be placed by check, money order, International Postal Money order, or may be paid in English pound or German mark equivalents (plus 10%). We do not accept charge cards at this time. Please make all checks out to either Frank Davis or Paul Holmgren, Do Not make checks out to Mechanical Affinity. You may place your order at either of the two locations.

For those orders placed in the United States all postage and handling included in the item price. For Canadian orders please add \$2 additional for postage per order. For the rest of the world then please add \$3 additional postage per order. Sorry for this, but the high price of foreign postage requires us to ask for this.

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## BOOKS

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## REPLACEMENTS

Replacement or backup power supply for the QL, no serious user should without one. Available for only \$15.  
Micro Drive Cartridges are \$1.25 each  
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## NEW PRICES

**QXL** now with SBASIC! the SuperBasic Compatible Interpreter. This is a card that plugs into a standard 8 or 16 bit ISA slot on a PC and allows the PC to run QL programs, fast! The operating system, called SMSQ is supplied on disk (can be installed on the PC hard drive) and includes Toolkit 2 and SBASIC, a multi-tasking SuperBasic compatible interpreter. We have reduced the price on the 2 Megs card from \$430 to \$360 (this can be upgraded to either 5 or 8 Megs.) Call Frank to check on current prices. Comes with 2 year warranty and free software updates.

**Gold Card** - 2Megs, 16 MHz. (4 times the present speed) - Up to 3 drives, 1.4 and 3.4 Meg. Has full TK2 and code for a Winchester hard drive. Now \$200, includes ins/shipping

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Soft Carrying Case. Also handy for the Laser PC3, Compumate and PC4. \$10

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## SERVICES

**FlipRAM Level 2**. Replacement EPROM for SuperQBoards V1.17 upwards, with and without mouse) and all Trump Cards. Compatible sub-directories, about twice as fast on disk access times. It has the latest TK2, and a new ATR device which lets you access IBM/ATARI disks directly. All for only \$38.

**QL Internal ROM Board**- this allows you to put your favorite ROM version (JM, JS, JSU, MGUS, MGUK, etc.) on an EPROM. Lower power consumption by the QL by about 20% & drops the internal temperature by about 50 degrees Fahrenheit.

heit. There is also room on the EPROM for us to include one of the following programs if you are an owner of QFLASH, TKII, SPEED SCREEN, TKIII, Brd & EPROM \$30. Brd alone \$12. Custom EPROM alone \$20. Let us know which ROM version you want us to supply, or you can supply. We can obtain the latest Minerva for you at current market price. We can also put your own code on EPROM.

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**TS-2068 dock EPROM boards**, bare \$10. These can be used for a 2068 program on an EPROM or can be configured to use for non-volatile memory boards (32K to 128K), or as RAM Disk. We are now including docs for these,

**Tom Bent's improved 8K TS-1000 ROM** on EPROM, for \$10. Requires at least 16K RAM expansion to operate, but bug corrected, some character improvement, improved floating point math, and runs cooler. \$12, and we supply the special socket to install, plus instructions. Works with the ZX-81 also, We can supply for those who are owners of the tape programs the following programs on **EPROM**: ZXLR8 for the TS-1000, PROFILE for TS2068, MSCRIPT, HOT-Z AROS for TS-2068, MTERM II for the TS-2068 and Delphi Utilities for the TS-1000. \$10 for the EPROM.

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**MINERVA MK1**, the ultimate replacement ROM for the QL. With this you can multi-task SuperBasic programs, do soft resets on the computer, use a dual screen, greatly improved speed, MDV datestamping, and the elimination of many bugs found in the earlier ROMs for the QL. This comes a EPROM, with its own board to replace your current ROMs, for only \$58.

**MINERVA MK2**, has all of the above, plus battery for 256 bytes RAM, crash-proof clock & 12C bus for interfacing. Can autoboot from battery backed RAM and has quick start-up. Price reduced to \$85.

**HERMES**, replacement co-processor for the 8049. This will end any keyboard rollover you May be experiencing; allow you to set the serial output baud rates as high as 19,200 baud, and even set independent baud rates for serial 1 and 2 for input (and after the release of Minerva 1.94 and above you will be able to also do this for output); allows you to use a modem with no dropped characters (even at 300 baud without a modaptor); allow you to toggle ON/OFF the keyboard click; improve the "fuzzy" and "random" sound; and cures the INT7 screen freeze that used to occur, plus the keyboard buffer is increased from 23 to 31 bytes for type ahead. This is the second processor for the QL, after your 68008 and by replacing that 8049 with she HERMES you will note the improvement. All this for only \$42.

## SOFTWARE FOR YOUR QL

**W**e have been engaged in A search of all the newest and the best software from around the world for your QL. The search is not quite over, but here is what we have found so far. If you are looking for something we do not have listed here, give us a call and we will see if we can obtain it for you. We are users of Sinclair and Cambridge computers; thanks for the support!

**QSpread** - the dream spreadsheet many QL users have waited for. It runs under the Pointer Environment, either by mouse or keyboard. It is formula oriented, as opposed to Abacus, giving the advantage that it can be modified anywhere. The parser has 22 scientific functions, along wit the standard ones. The size of the spreadsheet is limited only by your memory. professional quality for only \$88.

**The Lonely Joker** - this is a solitaire game based on six different patience: Echelon, Napoleon, and Cascade, etc. All six games are very addictive, with different variations per game. It can be controlled by either mouse or by the keyboard, and runs under the Pointer Environment. Many people not into games keep coming back! For Only \$29.

**Minefield** - a Pointer driven game that requires TK2. This is the commercial version of this game where the object is to uncover all the fields that do not contain mines, avoiding those with mines (which will end the game prematurely), The price in \$25.

**Adventure Creation Tool Special Edition**, fourteen programs and several data files (including a demo adventure game IMAGINE) that can be used to form illustrated text adventure games to run on the QL. It is a flexible game environment in which, almost any number of new features can be added. The program is written in a language called ACTBASIC which you use to create your program and than use the ACT compiler. It is easy to use and allows you to create endless adventures or even

make some educational adventures for your children to learn from. Priced at \$75.

**Genealogist 3** - if you have an interest in family history or family trees, then this is a great program for you, by Chris Boutal. It will keep track of data, birth and death certificates, census reports, and with full indexing and search capabilities. Printed manual and tutorial included, along with many other features. Needs expanded memory. Priced at \$95.

**Budget 128K Genealogist** - this is a cut down, microdrive version of the program above for tracking family history and family trees. Still a great value and for only \$20.

**Ser Mouse** - a software driver which allows you to connect up a cheap serial (PC) mouse to one of the serial ports on your QL. Even allows the use of three button mice. This requires you to provide the mouse and it needs the Pointer Environment, such as QPAC 2, QRAM or QTOP. For those who have the QIMI (with clock) mouse with Gold Card, you can now remove that and still have a mouse, Gold Card and a battery backed else in one machine. Not for use with a Microsoft mouse. For only \$37. If you wish to have a Black Mouse (matches the QL) with IBM to QL Mouse interface, and software the price is \$60.

**QDesign**, version 2 - the graphic and design program, which now runs entirely under the Window manager. Handles virtual screens up to 2880 x 2880 pixels in 2 or 4 colors (depending on your memory size) QL and Atari- Screens, Professional Publisher, Page Designer 2 and Art+ pages. It has a Preview over the whole page, and three zoom sizes. It uses Vectorfonts, which may be modified in more than one billion ways per font! Configures to print with 9 or 24 pin printers; also HP LaserJet and compatibles. Cost \$88.

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**The Painter**, version 4 - superb quality art and painting program for the QL. Pointer driven or keyboard driven, 100% machine code and very user friendly, which includes 9 and 24 pin and HP Deskjet printer drivers. It is also multi-tasking, with all sorts of drawing and text facilities large text, lines, and fill patterns, etc. Disk only and requires expanded memory. All of this for only \$50.

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**DISA** version 2 - this is the intelligent disassembler, which allows you to disassemble interactively any kind of machine code! it is completely pointer-controlled, and very easy to use. It can generate ASCII cursor which can then be assembled. It will try to insert label names where possible and knows all the QDOS standards, The price is only \$52.

**QLQ** - a software package for those who have 24 pin printers, QLQ is a handy utility that helps you create your own fonts and you get an editor that can be mouse or keyboard driven. It can add BOLD or OUTLINE features to fonts. The fonts can be downloaded and used as either 10 cpi, 12 cpi and proportional. Allows you to use all of the facilities your printer is capable of. Last, but not least, it gives you 13 predefined fonts. For only \$42.

**System** - system tools to use with QDOS. Has real file attributes, such as write-only, hidden or selected user only capabilities.

This will work over a network and with a Winchester drive. Also has NEW TRAP #3, new devices, namedpipes, MEM, 80 new procedures & functions. Many other facilities to this program Yours for only \$50.

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**Super Toolkit 2** on Dick - Tony Tebbys famous toolkit for the QL. Many QL programs require this to work correctly. This is now available on disk for those who do not have a disk interface that supports TK2. The Price is right at \$30.

**Media Manager** And Media Manager Special Edition - a very powerful utility to enable QL microdrive cartridges and disks to be 'managed' and to recover data from them in the case of corruption. It allows you to obtain intelligent directory listings, performs selective file operations, restore deleted or corrupted files, read and write to alien disks (such as IBME, TOS etc.), perform direct sector reading, etc. Media Manager sells for \$35; and Media manager S. E. (which is much faster and more user friendly) sells for \$55.

**FIFI** - the file finder, This is a retriever that will search for and retrieve all files containing one, or up to three strings that you ask it to search for. You can even combine two of the strings when you set it off on a search. It can search your files, disks or hard drive, Priced at \$27.

**Recover** - A specially designed program to retrieve data from a corrupted Archive database on the QL. Priced at \$29.

**Thing And EPROM Manager II** - if you need to put your Jobs, Things, extensions, SuperBasic or code into EPROM, then this will help you to do so with comparative ease. You will also have the Thing Extension II, which gives you complete control over Things from SuperBasic. With this program you will know if something will run from EPROM before you have to burn the chip! For only \$33.

**SlowGold** - Will allow you to slow down programs or games that run too fast on either a Gold Card, Super Gold Card, or a regular QL. It allows you to make these changes either before loading the program or while the program is in progress. It will not work with games that knock out the 50/60 Hz. Price is \$10.

**Winback Version 2** - an incremental backup program for the Miracle Hard Disk, Falkenberg Hard Drive, or ED drives. You can back up files to any QL device - even on a single drive system. On the first backup you copy everything. Thereafter, only files which have been changed since the last backup need to be copied. Large files can be split across several floppy disks if required. Directory rebuild facility for you if you need to re-format your hard disk. Supports up to 8 hard drives if required. Needs at least 256K RAM. ColdCard ED drive users can use smaller disk for their backups to save money. For only \$40.

**Multi Discover** - a clever program that allows you to convert QL files to PC, BBC micros (DFS and ADFS formats), CPM (many formats) and UNIX CPI0 format. It will format the disk and much of the process is automatic. Requires dual disk drives and at least 256K RAM. For only \$49.

**Page Designer 3** - a fairly easy to use desktop publishing program for the QL and the long awaited and vastly improved update of PD2. Make you own posters, ads, or even simple newsletters with this simple to use menu driven program. Text and



graphics can be mixed freely, borders or your own art can be easily added. This is a Pointer driven program and comes with many fonts, graphics and borders. Works with 9, 24-pin printers and with HP desktop printers. The price is \$63.

**Professional Publisher** - a full featured DTP system from Digital Precision for the QL. It is not Pointer driven, and does require extra memory and disk drives for optimum use. The price is \$130.

**Professional Publisher ToolKit Part 1** - loads of all new High Definition fonts for Professional Publisher, a program to translate Sector Software Clipart files for use with PP, and a program to convert Pro Pub files for editing with graphics programs (screen from page). We also have Part 2 of this, which has even more of the above. Each are offered for \$40, or both for \$65.

**Quick Laser For Pro Pub** - a printer driver for HP 2 printers and true compatibles (includes Deskjet printers). It allows output from Pro Pub to those printers in graphics mode to produce top quality results. It is modestly priced at \$30.

**Deluxe Font Enlarger** - Will automatically enlarge font files to produce high-definition fonts suitable for use by Professional Publisher and by Page Designer 3. The enlargement is smooth, thus avoiding jaggedness, due to the techniques employed in the program. Enlargement is by integral factor, say 2 or 3 times as large, but not by fractions. It can enlarge either regular QL fonts or those which are already high definition fonts. It is priced at \$34.

**Text'n'Graphix** - a program to help you include pictures in your text files when you print them out. Create the text in Quill (or your favorite editor), then use TnG to mark out space in the file for the pictures and print them out. Pictures can be created with programs like The Painter or from Clipart, etc. Runs on both expanded and unexpanded QLs and comes on disk or MDV. All for only \$34.

**The ClipART** by Progs - some of the very best Clipart we have seen for the QL, three disks-full of it, with a viewer. These can be used in your DTP program, art program, screen dumps, or with Text'n'Graphix or OverDrive to give you superb graphic effects. For Only \$23.

**Page Designer 2 Clipart** - Clipart made for PD2, but available in screen format for use in other DTP/graphic programs if required. It has a view facility so you may review the clips a page at a time, Works with Page Designer 3, For only \$20.

**Mechanical Affinity Clipart Collection #1** - a ten 720K disk collection of compressed Clipart for use in QL graphics and DTP programs. Decompressor and viewer programs included. Thousands of images. For the inexpensive price of \$40.

**Scanned Clipart I and 2** - two three disk collections of scanned Clipart for the QL in compressed form (decompresser program supplied). A wide variety of subjects is included, with many unusual subjects, Each set is \$16.

**QPAC 2** - from Tony Tebby, the total upgrade from QRAM this gives you a top of the line multi-tasking Pointer environment, complete with hot keys and buttons. Great for setting up several programs on a HD or ED disk also, so you can have several programs available to multi-task from without changing disks. The price is \$62. Expanded memory required.

**QPAC I** - a Program of Pointer Environment utilities by Tony Tebby. It includes a pop-up calculator, alarm, typewriter, calendar, digital clock, and some system monitor utilities, it includes

the Pointer Environment, but can be used with your existing set up if you desire. Priced at \$32.

**Cue-Shell** - this is a new and more graphical front end for your QL, from Albin Hessler. It will offer you easy access to all of your everyday computer tasks, such as copying, deleting, viewing of files, hotkey control, mouse settings, getting the date, windows and jobs control, and executing programs, as well as write protecting files or making them invisible. The price is \$63, Expanded a memory required.

**QTOP** - a user front end by COWO of Switzerland. It contains: desktop systems file handling, job control, program startup menus, as well as five desktop accessory programs (clocks, graphics demonstration program, graphics animators et.) This program is intended to be used in the Pointer Environments but can run also on the original QL, with slightly reduced facilities. There are versions on the disk for original QL Gold Card, Thor, Amiga QL emulator and the Atari QL hardware emulator board. The price for this on disk is \$49.

**Qkick Front End System** - now a simple and easy to master, pull down menu controlled multi-tasking front end. It will run in the background and can be called up at any time. It will give you: notepads, clock, diary, calculator, mini-database backing up facilities, sophisticated file/sector/RAM handling. For only \$36.

**Qmenu** - a very easy to use interface with pre-defined menus (multicolumn file-select, simple-choice boxes, or select from lists, error handling). For only \$25

**Printrmaster** - helps you to master your dot matrix printer with simple menu selection of printer functions. This can save you from having to look up printer control codes. It will even run on an unexpanded QL and can be supplied on either disk or MDV. Many drivers for popular printers are even included; and if not found, you are taken through the steps to create your own printer driver. All of this for only \$25.

**Super Disk Index** - got lots of disks and can not seem to recall what is on what disk? With this Program you have a useable index of just what is where and it has good search facilities. Create a disk that keeps track of all your other disks. For only \$22.

**Super Disk Labeller** - the easy to use program that allows you to create labels for 5 1/4, 3 1/2 or other size labels with ease. It gives you control over how much information and in what format you want the printed label to be. A great buy at only \$19.

**Address Book & Label Printer** - program gives you a database for your address book, and does not require Archive to run. You can print out address labels in several sizes (minimum size in height is 1 1/2 and on up to 4") and can even use European formats. All of this for only \$25.

**Locksmythe & formatter** by Zitasoft - this is the best copier and forms program known for microdrive cartridges. If you have MDV program that needs to be backed up, converted to disk, or an emergency copy made of protected MDV program ... then this is what you need. The best we have found and price reduced to \$42.

**Perfection Word Processor** - from Digital Precision, what some are calling the best word processor ever for the QL. You get superb file, print quality, font style and always available on-line manual (helps you with the exact place you are at in the document or with any command or possible problem). Available also with QTPY for those who need a spelling checker. Also a version for the Gold card. Perfection for only \$89 (works with Gold



Card or non-Gold Card) Perfection Special Edition (uses the Gold Card special features) for only \$150. Perfection Plus with Spellchecker for only \$150. Perfection Plus Special Edition (for Gold Card) with Spellchecker for only \$200.

**QTYP2** - a spelling and typing checker utility program that uses the Pointer Environment. It works with Perfection, Quill, or with Text87. The Pointer environment is supplied with this program, as well as a 40,000 word dictionary in English, French and German. It has a dictionary editor to create new dictionaries, adding your own words. Requires expanded memory. It has a Super-Basic interface which allows you to write BASIC programs which use QTYP2. Priced at \$46.

**Text87 Plus4** - a super word processor from Software 87, Fred Toussi, that gives you many great features, such as proportional printing, multi-column, multi-frame page layouts, display fonts to match printed fonts, a configurable display, multi-document capability, resize function for different sizes of paper, and a large number of fonts for use. You can import or save to Text87, Quill or text files. The price is \$119.

**Typeset94 Deskjet** - Text87 drivers for HP Deskjet & larger printers, \$45. 2488 - Text87 drivers for 24 pin & bubblejet printers, \$31. Founttext94+Founted89 - graphics driver & taunts for Text87, \$61. Publishes Pack - a full package consisting of Line Design, Text87 and link program between the two. This gives you full DTP capability as a package. The package price is \$300.

**Deskjet A5** - program written special for users of HP Deskjet 500 printers and compatibles. It prints in small sideways print using the printers landscape fonts. It is pointer driven and lets you print 2 pages of text side by side in book or leaflet formats. It can also be used to print 4 pages from Quill onto a single sheet of paper in smaller than usual print. It works with plain text or with Quill, and requires expanded memory. The price is \$19.

**Solution** - IBM PC emulator for the QL. Runs all well behaved PC programs on your QL, emulates CGA graphics. As it is an emulator, it is slower than the real thing; But it gives you access to many PC programs without buying a new machine. For only \$46.

**PC Conqueror** - The best and fastest PC emulator for the QL and can handle just about any Mono or CGA graphics Program. It can even use a disk drive to emulate a hard drive. We have a special version for the Cold Card that can take advantage of those QLs able to run at 24 megahertz, use either HD or ED drives as a mini hard drive. PC Conqueror for only \$90. Gold Card Version for \$150.

**Success** the CPM emulator for QL - this is a highly successful program for emulating the CP/M80 operating system. It handles CPM programs up to 64K in length, add uses the CPM 2.2 environment. The disk also contains a ROMable version of the program should you decide to do so. With this you can put CPM an EPROM which you can call up when you want to use it. This also given you a Z80 environment. The price is \$59.

#### **Our Newest Additions**

**Screen Snatcher** - program saves a copy of the current Screen display to disk, microdrive, ram disk, hard drive. It will work in either mode 4 or 8, and if you are using Minerva in the two Screen mode, it can save either one. It does this by a key combination you set up. The price is \$16.

**Oractal** - a Pointer driven Fractal graphics program, originally from PROGS of Belgium. The price for this three disk set is \$32.

**Megatoolkit** - the toolkit many have been waiting for to use on their QL. It has over 200 Basic extensions that you can use in your programming. The price is \$40. Call or send a SASE for more information to Frank if needed.

**Qliberator 3.36** - allows you to compile virtually all of Super-Basic with this Very simple to use program. It works with the QXL, also. The price is \$77. We also have the budget version for those who have not greatly expanded their QL, for \$39.

**Sidewinder Plus** - prints Screen dumps and desktop publishing program page files. Screens can be printed in a variety of sizes from very small (postage stamp or label sizes) up to very large banners. Screens can be printed in large strips to be put together later to make a very large banner. Print sideways, mirror, invert, grey scale, mode 4 and 8, text insertion, label printing. Prints to 9-pin, 24-pin, and to JX80 and LC10 color printers. Expanded memory and disk drives required, and sells for \$39.

**Banter** - a banner making program. It will make text banners unto 4 sheets wide, using outline fonts that will provide quality text. You can type the text, preview it and then print. Fonts are included. It has drivers for 9 and 24-pin Epson compatible printers, as well as the HR5 printers. It requires expanded memory and sells for \$39.

**Image Processor 2** - a graphics program with facilities to process images, such as outlining, image enhancement, screen mode conversion, decoloring, recoloring, zoom pixel editing for detailed work, as well as graphics menus (brushes, lines, sprays, fill, boxes, polygons and circles). It offers menu driven Windowing to allow you to work on just part of a screen at a time, with up to three screens in memory at a time, file compression, and Pointer environment. You can even add your own screen dump or use the one supplied. The price is \$39.

**SToQL** - an Atari ST screen graphics transfer program to the QL. It requires the use of a program such as Discover to transfer the original files from the Atari disk to a QL disk, and then you use this program to convert them to QL screens. It will convert Neochrome and Degas files (.neo, .pil, .pi2, and .pi3 extensions). It requires 256K of memory and disk drives. The price is \$19.

**Covert-PCX** - this program will allow you to convert PCX Clipart from the PC world over to the QL in either standard or compressed screen formats. You need a program such as Discover (or other IBM to QL file transfer program) to port them over to the QL and then run PCX-Convert. It will handle monochrome and 16 color PCX images. There are literally thousands and thousands of these images available in the public domain for you to work with. It needs 512K of memory and sells for \$17.

**Lightning** and **Lightning S. E.** - these are the number one Programs for speeding up your QL in the areas of graphics, text and math. You also get fonts you can use on your QL. This is an excellent way to speed up your QL and programs. Lightning for the non gold card QL is \$40, and if Lightning S.E. for the gold & super gold card QL is \$60.

**LINEdesign 2** - a real vector drawing package for your QL. Vector fonts and graphics do not get jaggy or rough when you shrink or enlarge them they stay smooth. There is no loss of precision when you change size. This is a pointer driven program that comes with lots of fonts and Clipart and can be either mouse or keyboard driven. It has lots of special effects available for use. It can be used as is for art, poster or ad output. If you use it with Text87 (word processor) and the publishers pack (available from us) then you turn it into a true desktop publish-

ing system. It has drivers for Epson compatible dot matrix printers, HP Deskjet and laserjets. It requires at least a Trump Card, but shines best with a Gold or Super Gold Card. The price is \$160.

**Proforma** - a graphics Library developed originally for LINEdesign. You can use this library in C programming and have access to all drawing commands and printer drivers, as used in LineDesign, PFdata PFlist, etc. The price is \$160.

**DATAdesign 3** - here we have a very user friendly database which is both powerful and fast. This can be used for all of your database requirements, and takes a much shorter time to learn than Archive. It can be programmed from BASIC, C, or assembly language. The price is \$93.

**DATAdesign API** - will give you direct access to the DATA-design database management Systems. It will offer you a record at a time data manipulation language which can be used in Basic, C or assembly. It allows you to have variable length fields, and the addition and subtraction of fields with no problem. Fields can also be accessed by several jobs at the same time. It sells for \$33.

**PFdata** - can be used to print tables from DATAdesign files using PROforma. This means that you have a large selection of fonts in any requested size. You can also include LINEdesign pictures to add logos, boxes, etc. You can print several records on one page, with several options for justification. The price is \$33.

**PFlist** - a very easy to use program for creating listings on any printer (including Deskjet and Laserjets). You can include a footer, 2 columns, filename and filedate. It allows for perforation on pages. You can choose the font and font size as it uses PROforma). It also has a landscape print mode. The price is \$33.

**PROforma Fontpack** - a new pack of 100 high quality professional fonts (not public domain) for use with LINEdesign or PROforma (or any program that can use PROforma, such as above). The price is \$130.

**TURBO** - the number one basic compiler and toolkit from Digital Precision. This thing is so complete that it has a manual hundreds of pages long to detail all of the extras. Priced at \$110.

**ZM/hT System** - the best Spectrum emulator possible for the Gold and Super Cold Card, and it has a Z80 compiler. It is about Spectrum speed on the Gold Card and much faster on the

Super Gold. With this you can keep and use all of your old Spectrum programs. Cost is \$60, from Ergon.

**DEA Intelligent Disassembler** - also from Ergon of Italy. This is an extremely easy to use disassembler for your QL. You just load a file and DEA does all of the work. It will fully handle 90% of the work with no intervention on your part, and helps you with the rest. It even handles multi-data types. It can also extract toolkit commands & much more. \$40.

**Master BASIC** - another fine Ergon program that is the ultimate tool for the SuperBasic programmer. It allows you to drastically speed up both the construction and debugging of your programs. It is also Minerva compatible (as are all Ergon programs, as well as all other known ROMs). It has a pop-up line menu for easy use. Priced at \$35.

**QLibrary Manager** - a Clever SuperBasic source code extractor and manipulator. It will go into a program and extract the code you need to do a certain task and you can create your own library of such codes for when you need them in your program work. \$25.

**Floppy Disk Utilities** - another great program from Ergon which works with double, high and extended density disks for the QL, as well as alien disks. It offers you (1) a fast and powerful Disk Editor (it can recover corrupt disks with even bad directories or sector maps) (2) an intelligent disk copier/verifier, and much more. Priced at \$25.

**Open World** - the number one graphics conversion program there is for the QL. It will convert GIF, TIFF, IFF, etc. graphics from the PC or Amiga to QL graphics this gives you access to perhaps hundreds of thousands of PD graphics from other machines. It converts to 4, 8 colors (grey levels), or monochrome. It has other facilities to allow you to convert QL graphics to a PC, and more. \$25.

**Music Manager** - a simple to use program to create and play music on the QL. It has PSION style operation. It is the best of its kind for the QL that is offered. From Ergon and priced at \$20.

**Disk Mate 4** - from PM data of Norway. This is a suite of utilities for disk control that runs under the Pointer environment and uses menu extensions. It is meant for the Gold Card, QXL and the Atari with QL emulator. A mouse is highly recommended. It covers all of your disk and file handling needs. The price is \$43..

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Anyone interested in back issues of THE PLOTTER can still get them at 50 cents per copy plus postage.

A couple of items have come in that are not on consignment. One is a 2068 in real good shape — computer and power supply for only \$45 plus \$10 shipping. The other is a 2040 printer with an extra long cable with power supply for \$20 plus \$7.50 shipping. If you are interested in these two items, use reference RMGU1294A & B.

If you are interested in cassettes for programs, we have a good supply of 10 minute tapes for \$.25 each in lots of 10. Soft cases for these are \$15 each in lots of 10 and hard cases are \$.20 each in lots of 10. Shipping is \$4 for 10 tapes with cases. We also have a lot of used tapes at only \$.10 each in lots of 10 - shipping is \$4 on these as well.

The Best of the Plotter is SOLD OUT

Also, will not accept orders for the Companion Disk  
All orders received have been returned.

We have a few WLs in stock that need repair. We are letting them go for only \$30 each - complete, in the keyboard case. Use them for parts or repair them for a backup. Add \$8 for shipping. Add \$15 for power supply. No manual or software with these units. We have 8 to sell.

Just received the last of AERCO's CP-68 Centronics printer i/f stock and are selling them out for \$50 each. (Reg. \$80) plus \$5 shipping per i/f, only a few left. First come, first served!

## FOUND!

While doing some inventory work, we came across some items that we were not aware that we had in stock. Maybe some of you will be interested in some of these items:

- 2 AERCO FD-68 Disk I/F 256K RAM Set Up To Power The Drive and For LarKen Systems \$125
- 7 AERCO CP-68 Printer I/F 2068 \$55
- Completely Checked Out/Repaired By Dan Elliott
- 4 Issues Of The Original Program Of The Month Club Cassettes Real Collector's Items! \$10
- 1 MEGALITH 8Meg AT RAM Board (0Meg) - uses SIMMS New \$95

All above prices include shipping. If interested, call or write.

If you are interested in cassettes for programs, we have a good supply of 10 minute tapes for \$.25 each in lots of 10. Soft cases for these are \$.15 each in lots of 10 and hard cases are \$.20 each in lots of 10. Shipping is \$4 for 10 tapes with cases. We also have a lot of used tapes at only \$.10 each in lots of 10 - shipping is \$4 on these as well.

### TS 1000 Hardware:

- 1> TS 1000 Complete In Original Box \$20
- 1> TS 1000 In Suntronics KD-81 Keyboard-Direct Video Output-Cables And Manual \$50
- 1> PC8300 (TS 1000 Clone) Not Working, No P/S \$10
- 6> TS 1016 16K RAM Packs--ALL FOR \$12 Or Each \$4.50
- 1> TS 1000 ROM Demo PC Board \$15
- 1> Z-Dubber Tape Filter/Copier For TS1000 \$10
- 1> MEMOTECH HRG (High Res. Graphics) Pack \$25
- 1> William Stuart Systems Speech Recognition/Sound Board Interface (Not Working) \$15
- 1> ZEBRA Light Pen With Software For TS1000 \$10
- 2> TS 1000 Power Supplies Both For \$10 Each \$5.50
- 1> Molded Plastic Briefcase For TS 1000 Package Holds TS1000/Power Supply/Cables/TV Switch/RAM Pack/Manual And Cassette Tapes \$20

### TS 2068 Hardware:

- 1> Ts2068 Complete In Original Box Includes: Crazybugs Cartridge/States & Caps Cart \$65
- 1> TS2068 With Manual/TV switch/cables/software includes: crazy bugs cart/states & caps cart. No P/S \$40
- 1> LarKen 2068 Disk Drive Interface W/Ver L3 ROM & SPECTRUM SPEC-2 ROM \$125

- 1> ZEBRA Graphics Tablet with Interface and Software Painter 1.4, Techdraw 2.1 and Radio Shack analog joystick \$60

### General TS Hardware:

- 1> TS 2050 Westridge Modem W/ Software \$40
- 2> TS 2040 Printers with power supplies \$40 both or \$25 ea.
- 1> TS 2040 Printer with no power supply \$10
- 8> Rolls Radio Shack Thermal paper W/2040 adapters \$10
- 1> AERCO Centronics Printer Interface W/Software \$45
- 1> Supra Microstuffer Parallel 64K Print Buffer \$20
- 1> WINKY Board II Tape Filter \$8
- 1> Dual 5.25" Disk Drive Package W/Case and power works with both LarKen 1000 And 2068 1/Fs \$100
- 1> TANDON TM-100-4 5.25" Full HT 720K Drive \$20

For Above Items Please Use Reference # TWUI194

CNSN-13

Last Updated: January 12, 1995

### More New Items Just In!

- 79> TS 1000 Software Titles-Timex/Softsync - Others All \$30
- 9> TS 1000 Public Domain tapes - All \$10
- 11> TS 1000 LarKen Format Public Domain disks - All \$10
- 16> TS 2068 Software Tapes-Timex/ZEBRA - more \$20
- 4> TS 2068 Public Domain tapes \$7.50
- 13> TS 2068/Larken 5.25" diskettes \$30

### Books:

- 32> Titles For TS 1000 -Write for list \$45
- 6> Titles For TS 2068-Write for list \$15
- 8> Titles For All TS Computers - Write for list \$15

### Magazines: ALL for \$20

- 23> Issues SYNTAX 6> Issues Computer Trader Mag.
- 1> Best Of Timex Sinclair User Vol. 1 14> Issues SYNC
- 19> Issues Time Design Magazine 21> Issues TS Horizons
- 25> Issues SYNCWARE News 7> Issues Timex Sinclair User

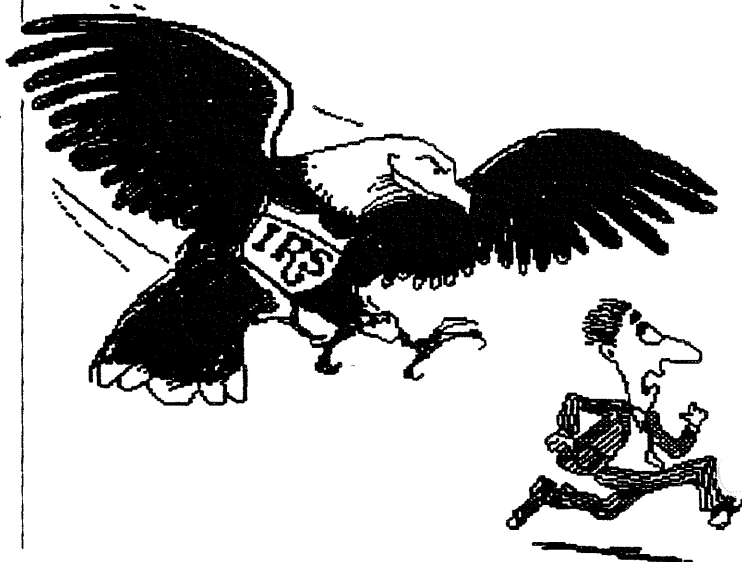
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- 8> Issues Triangle Users Group 2> Issues SNUG
- 3> Issues Sink-Link (Toronto Users Group) 11> Issues TSNUG
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- 22> Issues SWYN (Seattle Users Group)
- 20> Issues VISTA (Vashon Island Users Group) 3> Issues QZX
- 7> Issues Kansas Area Users Group
- 49> Issues TS Users Of Fort Worth

For Above Items Please Use Reference - TWU1194

CNSN-14

Last Updated: December 1, 1994



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Bob Swoger Address on page 2

## 747 Flight Simulator

So you like to fly, the 747 Flight Simulator for SPECTRUM by Derek Ashton of DACC. Requires a SPECTRUM equipped 2068. Supplied on LarKen SSDD or DSDD LarKen disk for \$10 which goes to Derek now working at Motorola with Bob.

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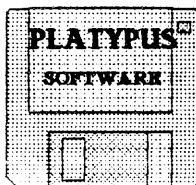
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TS-2068/Spectrum and QL

T/S Books

Hardware for ZX-81/TS-1000

TEJ Computer Products

2405 GLENDALE BLVD STE208

LOS ANGELES CA 90039

24 Hr. Order line: 213 669-1418

**FOR SALE:** Complete TS-1000, TS-2040 printer in their original boxes and three rolls of thermal paper. Mint condition. For \$35 P/shipping.

Complete Atari system, 800XL computer, printer, modem, software and books. Mint condition. \$95 P/shipping

ROBERT CURNUTT

10400 TRUXTON RD

ADELPHI MD 20783

**WANTED:** Articles or material for the QL and the Z88 for publication in ZXir QLive Alive!. Also articles on any other T/S computer. Can't publish what we do not have. Will accept even handwritten notes.

DONALD S LAMBERT

1301 KIBLINGER PL

AUBURN IN 46706-3010

**FOR SALE:** Radio Shack CGP-115 Color Printer/Plotter, \$75.00. T/S 2050 Modem complete, in original box, \$35.00.

D G SMITH

R 415 STONE ST.

JOHNSTOWN PA 15906

(814) 535-6998

## LISTing Newsletter

The Long Island Sinclair/Timex Users Group

HARVEY RAIT

5 PERI LN

VALLEY STREAM NY 11581

## QL Hacker's Journal

Supporting All QL Programmers

Timothy Swenson, Editor

5615 BOTKINS RD

HEUBER HEIGHTS OH 45424

613 233-2178

## NESQLUG NEWS

New England Sinclair QL Users Group

16 HIGHLAND AVE

SAUGUS MA 01906

## CATS Newsletter

The Capital Area T/S Users Group

BARRY WASHINGTON

7044 CINDY LN

ANNANDALE VA 22003

301 589-7407

301 588-0579 BBS

## Nite-Times News

Newsletter

Chicago Area Timex Users Group

PHILLIP KWITKOWSKI

2106 DOVER LN

ST CHARLES IL 60174

# RMG


## ENTERPRISES

### Supports

### Timex/Sinclair Users!



Call or FAX for information on  
prices and availability, hardware or  
software and books

You can send a legal  and 58¢. Re-  
quest list & price sheets  
Public Domain Software

### Sell Your Unused Computer & Related Items Here

We also carry extensive PC shareware

Allow 6 - 8 Weeks for Delivery

Send check or money order to:

RMG Enterprises

14784 S QUAIL GROVE CIR

OREGON CITY OR 97045

503 655-7484 (10AM-7PM Tue-Sat) FAX 503 655-4116

**WANTED:** A full size keyboard, educational software and  
a replacement ULA chip for the TS-1000.

ALEX SWEITZER

RD 1 BOX 207

FAYETTE CITY, PA 15438

**WANTED:** Looking for instructions or documentation on  
the ZX Assembler/Disassembler by Bob Berch.

WAYNE KNAUST  
2 PEAR TREE CT  
ST. PETERS MO 63376

**FOR SALE :** QZX Index. 59 pages. \$10 Postpaid. &  
PC-DRAW a printed circuit designer for the TS-2068 \$9.00 pp.

A F BURR

2025 O'DONNELL DR

LAS CRUCES NM 88001

**WANTED:** "The Explorer's Guide" by Mike  
Lord and "SPECTRUM Wargaming" by  
Owens & Fisher.

PHILLIP JOE

800 BOWIE LN

GREENWOOD MS 38930

**WANTED :** AERCO disk drive interface for the TS-1000. I  
will consider a purchase either with or without drives. I will  
even consider a repair-it-yourself.

FRED STERN

PO BOX 264

HOLBROOK NY 11741

516 737-0963 eve.

**WANTED:** DEAD QL's, Spectrums or add-on boards.  
Will pay \$20 plus shipping for complete defective units.

D WALTERMAN

PO BOX 176

TROY MI 48099-0176

810 656-4108

From Nuts & Volts

**WANTED:** Timex Sinclair User #2&5, T-S Horizons #1, 2,  
7, 11, all after #16. Software for TS 1000 or 2068 - Conversa-  
tional German (Sinclair Research Limited), Der Student (J.W.  
Collins), German Tutor (Creitech) or similar programs. Ma-  
chine Code Tutor for the 2068 (Knighed Computers - 2 cas-  
settes) or similar for 2068 or 1000.

DOUG WAGONER

E 4825 ST ANTHONY LN

POST FALL ID 83854-8812

**FOR SALE:** Assembled TS-1000 Hunter non-volatile  
board with memory and docs - \$30

MemoPac 32K RAM with docs - \$20

2 Beeper kits sounds off with key press - \$10 ea.

QL - Falkenberg hard-drive with Omti MFM controller  
(either a bus driver board for a Gold Card or one for a  
Trump Card), an MFM cable, hard-drive case and power  
supply. Works great with any MFM drive from 20 up to  
416 Megs. All for \$225. Money order or COD.

ELIAD WANNUM

c/o UPDATE! MAGAZINE

PO BOX 1095

PERU IN 46970

**MAKE AN OFFER:** LarKen Disk Interface for ZX-81 TS-  
1000. Includes the LarKen manual, Bill Harmer's unofficial  
manual, disk interface for 2 drives, a stack of disks including the  
PD disks (100's of programs), a disk drive in working condi-  
tion, a two-drive case with power supply and ribbon cable.

Make an offer that should include the cost of shipping of 15 lb. Disk drive and case is offered only with the interface, however, the Interface may purchased seperately.

**DONALD S LAMBERT**  
1301 KIBLINGER PL  
AUBURN IN 46706-3010  
209 925-1372

## Price Watch

**PRINTER RIBBONS** in sealed plastic package. For EPSON FX/MX/RX 100 series. Not \$3.00 each, but 2/\$1.00 plus S&H. Or 6/\$3.00, 60/\$25 includ. S&H.

**JOHN MANUS**  
3609 CEDAR HILL DR NW  
HUNTSVILLE AL 35810  
205 852-2142

## SINCLAIR Resources

**JACK DOHANY** (Developer)  
390 RUTHERFORD  
REDWOOD CITY CA 94061

**JOHN MCMICAEL** (Developer - Graphics)  
1710 PALMER DR  
LARAMIE WY 82070  
307 742-4530

**ED GREY ENTERPRISES**  
PO BOX 2186  
INGLEWOOD CA 90305  
213 759-7406

**Bill Ferebee** (TS-1000/2068)  
MOUNTAINEER SOFTWARE  
749 HILL ST 9  
PARKERSBURG WV 26104  
304 424-7272

**IQLR** (QL)  
PO BOX 3991  
NEWPORT RI 02840-0987  
401 849-3805

**Bill Russell** (QL)  
RUSSEL ELECTRONICS  
RR 1 BOX 539  
CENTER HALL PA 16828

**Mark Stueber** (QL)  
SHARP'S COMPUTER CENTER  
7244 MECHANICSVILLE TPKE  
MECHANICSVILLE VA 23111  
804 730-9697 FAX 804 746-1978

**SUNSET ELECTRONICS** (TS-1000/2068)  
2254 TARAVAL ST  
SAN FRANCISCO CA 94116

**Bill Cable** (QL)  
WOOD & WIND COMPUTING  
RR 3 BOX 92  
CORNISH NH 03745  
603 675-2218

Send them a LSASE and ask for information about their current products and/or services.

# UPDATE! Magazine

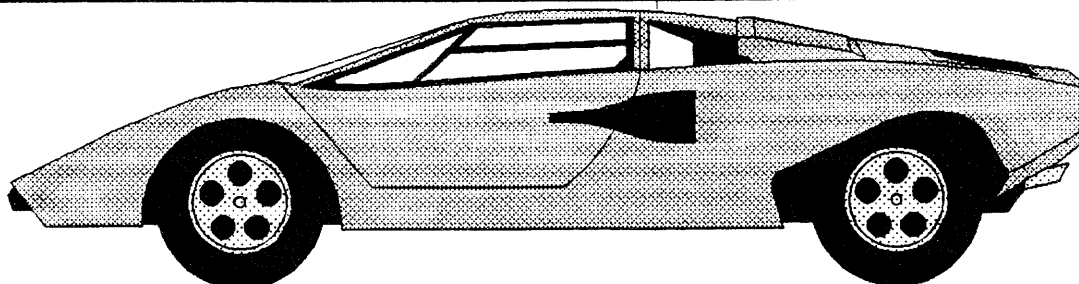
The only known, privately produced Sinclair computer magazine that covers ALL of the Sinclair computers. We are now starting our 8<sup>th</sup> year of publication ! ! !

We are a large quarterly magazine that is produced on Sinclair computers. We cover the QL, Z88, TS-2068, Spectrum and the ZX-81. Minimum issue size is 50 pages, and does include ads from Sinclair dealers. The subscription is \$20 in US\$ in North America; £18 or DM 15 equivalents.

Send all funds and requests for a new subscription to:

**UPDATE! MAGAZINE**  
PO BOX 17  
MEXICO, IN 46958, USA

Checks, travelers checks, cash are all acceptable.





Quantum Leap) computer, its first try from the small business system. A far cry at \$499—but it offers quite a bit for the money.

When will you see it? Well, it's expected to be available in England by now, and as soon as it has its American FCC tests, it will be here.

This 5 1/2" x 1 1/4" x 1 3/4" package features an 16/32-bit Motorola CPU with an Intel 8049 handling such housekeeping chores as the main time clock. Since the 68008 can address one megabyte of non-

keys, four keyboard has five function keys, and a normal-size space bar. A membrane under the keyboard protects the electronics from accidental damage

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gives you your capability in the "soft-touch" type—your own programs. Comprehensive manual makes it easy—even for beginners.

**THE T/S 2000 EXPANDS TO FILL YOUR NEEDS.** The T/S 20068 is equipped with 72K of memory, enough for you to do complex calculations, control the color

DATE	TIME	SCORE	BOARD	SCORE
1	10:00	100	100	100
2	10:00	100	100	100
3	10:00	100	100	100
4	10:00	100	100	100
5	10:00	100	100	100
6	10:00	100	100	100
7	10:00	100	100	100
8	10:00	100	100	100
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10	10:00	100	100	100
11	10:00	100	100	100
12	10:00	100	100	100

T/C  
OR

actual ROM memory to exciting games, pre education, inventory c statistical analysis. Th growing, and will com mand cartridges to sei

GRAPHIC DI

# L A T E A R R I V A L S

**FOR SALE:** FOOTE Printer Interface fits in the dock port of the TS-2068, no driver (works with LarKen without) \$25. AERCO printer interfaces, one for TS-2068 and one for TS-1000, \$25 each. JLO kit for 4 slot motherboard for TS-2068 \$30. SPEM (Italian made) full page scanner for QL, fitted on a printer body, with manual and S/W \$90.

FRANK DAVIS  
513 E MAIN ST  
PERU IN 46970

**FOR SALE:** Okimate 20 with Atari ST "Plung-N-Print" package. Comes with extra ribbons (both color and B&W) \$65.

TIM SWENSON  
513 233-2178

**WANTED:** LarKen disk interface for the TS-2068.

BOB SWOGER  
613 PARKSIDE CIR  
STREAMWOOD IL 60107

From The BBS — Download ads.ads

708 632-5558

Un-edited

**FOR SALE** 950123 : Memotech 32K RAMPACK - great shape used a couple times then somehow my machine died - now if you have a ZX81 or T/S-1000 that needs it. Also MemoCalc Spreadsheet Pack. Great shape and still works. Want a spreadsheet that's instant on? Memocalc is for you! It'll use whatever RAMPACK you have. This is a great pair of products! They both come with the little booklet they give you with it. I would like \$15 each or \$25 for BOTH! What a deal! Shipping included!

I also have a 'sort of working Atari 800XL with a disk drive! The keyboard needs to be fixed - when plugged in the computer is dead and when you unplug it, it works (huh?) I've a small quantity of disks for above system and some parts that seem to go with it - make a reasonable offer above \$45 U- FIX and save [or send it to Dan Elliot and he'll fix it CHEAP!]

Tandy CoCol with Extended BASIC and over 3 Dozen (Rainbow/Hot Coco or whatever) mags and some Disks with a disk interface that plugs into the cartridge slot. If have some tapes also and manuals and other assorted goodies. I'm looking for at least \$80 for ALL - I even have the color mouse and a hires interface as well as a Videotex cartridge.

Wanted any screen dumps, drivers, or programs permitting the use of Radio Shack CGP-115 Color Graphic Printer (4-pen plotter) with the T/S 2068. Tape, JLO, or LarKen. Also: Looking for PC Magazine, Vol. 3 No. 23 Nov. 27, 1984?

D.G.Smith

R.415 Stone St.

Johnstown, PA 15906-1609

(814)535-6998

**FOR SALE** : 950125 Hardware. COCO3 512k w/keyboard extender

COCO3 128k brand new never used RS-232 deluxe modem pack w/cbl dual disk drives (5¼ & 3½) w/disko DC-7 controller ADOS3 w/org. Disk Seagate 40 meg h.d. w/ Burke & Burke controller (w/ clock)

cassette CCR-81 w/ cable hardrive is loaded with software. Deluxe joysticks (& spare parts). OS9 - OS9 level II. Shellmate misc. Issues of RAINBOW from 1983 to present - RAINBOW books (OS9 & RSDOS) will sell all as a bunch or individually leave mail on Delphi (RCPOLK) email repolk@delphi.com. Or richp@comm.mot.com

**FOR SALE** 950103 : Packard bell 486DX24, 20m HD, 3.5 FDD tape b/u 2x CD-ROM drive MSmoney MSworks \$1000 Or best offer. Dave 708-205-2843

**FOR SALE** 950103 : 486SX 25MHZ PC 170M HD 14" .28 SVGA monitor 2m ram 2400 modem sound Blaster mouse windows 3.1 DOS 6.2 3.5 & 5.25 FDD \$800 Paul 708-830-5177

**FOR SALE** 941205 : NEC Laptop w/ext. FDD & RAM 1S/1P port int. MODEM built in WordStar Spreadsheet Telecom S/W Lt wt - int. monitor \$200 OBO 708-359-7293

**FOR SALE** 941205 : MAC Classic w/software w/Apple dot matrix printer. \$550 David 708-381-6715

**FOR SALE** 941107 : IBM XT T1 20mg HD 512K RAM VGA monitor w/ Epson LQ-510 24 pin printer US Robotics ext. mdm \$200 for all. 708-726-0650

**FOR SALE** 941107 : Atari 800 48K + BASIC cart. FDD, interface module printer modem color monitor 150+ game disks word processor 4 joy sticks \$85 OBO Dan 708-359-7293

**FOR SALE** 941107 : IBM AT clone 40M HD mono VGA 640K mouse 2400B modem 287 C/P, lots of s/w 360K & 1.4M FDD & more \$350 Or best offer Dan 708-359-7293

**FOR SALE** 940914 : MAC Plus 1Mb/ 128K .150 Image Writer II \$100 Robert 708-374-8612

**FOR SALE** 940914 : Compudynes 386SX 16MHz, 5M RAM 60M HD doubled to 113M SVGA 3.5" HD sound Blaster card, 2400 Baud int. modem DOS 6.2 \$750 Or best offer. Dan or Teri 708-884-9035

**FOR SALE** 940914 : Laptop Computer - NEC w/ext. FDD mon RAM int. modem ser./prnt prts s/w in ROM. WordStar, Filer, Spreadsheet, Comm. Lt. weight - great for student. \$250 Or best offer. Dan 708-359-7293

**FOR SALE** 94110 : MAC Powerbook 165c 4/80 4MB RAM 14" MB HD blt. in 1.4M Superdrive 33 MHz 68030 Color 14.4 int. modem & software \$1400 708-582-0916

## PRICE ALERT

### Disk Drives

360K	5¼ ½ Ht.	\$13
720K	5¼ ½ Ht.	\$16
1.2m	5¼ ½ Ht.	\$31
1.44m	3½ ½ Ht.	\$29

Hi-Tech 805 681-9961

## LogiCall v 6.0

*When realised, the package will contain:*

- *LogiCall v 6.0 ensemble on two disks.*
  - *A re-written and updated LarKen manual.*
  - *A re-written and updated LogiCall manual.*
- This item is to be completed in the very near future.*
- *The right price for the package is \$15*

*It will be available from Mechanical Affinity and RMG*

*Editor*